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AN EXPLORATORY STUDY OF KNOWLEDGES IN CHILD DEVELOPMENT AND GUIDANCE NEEDED BY MOTHERS AND WORKERS IN OCCUPATIONS RELATED TO CHILD CARE.

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BOTH PROFESSIONAL AND PRACTITIONER ASSESSMENTS WERE OBTAINED TO DETERMINE THE TYPES OF KNOWLEDGE NEEDED BY MOTHERS AND EMPLOYEES ENGAGED IN ACTIVITIES AND OCCUPATIONS RELATED TO CHILD CARE. IT WAS NECESSARY TO IDENTIFY THE SKILLS IN CHILD DEVELOPMENT AND GUIDANCE WHICH ARE UNIQUE TO THE MOTHER ROLE AND TO THE EMPLOYEE ROLES AND THOSE WHICH ARE COMMON TO BOTH. NINETY PERSONS WERE PERSONALLY INTERVIEWED, CONSISTING OF DAY-CARE CENTER DIRECTORS, DAY-CARE FOSTER MOTHERS, MOTHERS OF PRESCHOOL CHILDREN, DAY-CARE LICENSING REPRESENTATIVES, SOCIAL WORKERS, AND CHILD DEVELOPMENT SPECIALISTS. THE LATTER THREE GROUPS WERE ASSUMED TO BE THE PROFESSIONALS. VIEWS GATHERED ON THE STUDY SUBJECT MATTER SHOWED MUCH SIMILIARITY BETWEEN PROFESSIONAL AND PRACTITIONER WITH RESPECT TO THE CHILD CARE INFORMATION NEEDED BY BOTH MOTHERS AND EMPLOYEES. SIGNIFICANT DIFFERENCES, HOWEVER, WERE NOTED AMONG THE GROUP VIEWPOINTS ON THE AMOUNT OF EDUCATION AND EXPERIENCE NEEDED. THIS DISAGREEMENT WAS WELL FOUNDED BECAUSE OF THE VARYING AMOUNT AND DEPTH OF KNOWLEDGE REQUIRED IN THE SEVERAL OCCUPATIONS AND JOBS REPRESENTED BY THE PARTICIPANTS. THE ACTUAL ITEMS OF KNOWLEDGE NEEDED (A TOTAL OF 68 WERE USED ON THE DATA FORM USED IN INTERVIEWS) BY MOTHERS AND DAY-CARE CENTER DIRECTORS, ASSISTANTS, AND FOSTER MOTHERS WERE PRESENTED IN TABULAR FORM. BASED UPON THE STUDY ANALYSIS, RECOMMENDATIONS FOR RENEWED CURRICULUM DEVELOPMENT IN CHILD CARE AND GUIDANCE WERE FORMULATED. (JH)

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An Exploratory Study of Knowledges in Child Development and Guidance Needed by Mothers and Workers in Occupations Related to Child Care

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Mr. Asano: You may not have brought a solution, but what you have done is to erect a signpost. You have forced me to probe more deeply--and I promise you--I will probe.

--Leonard Spigelgass, A Majority of One,
Random House, New York, 1959, p. 98

PREFACE

Two major objectives of home economics at the secondary level are (1) education for homemaking and family life, and (2) education for employment in occupations utilizing home economics knowledges and skills. Although each of these purposes involves unique knowledges and abilities, there are knowledges and abilities common to both. Identification of these unique and common knowledges and abilities is an area of research with important implications for curriculum-building. Awareness of the commonalities should make it possible to develop a total program of home economics integrated in many ways--rather than the schismatic one that could develop if we see education for homemaking and education for employment as separate programs having no relationship to each other.

The present study was made to ascertain the knowledges in the area of child development and guidance needed by mothers and by employees in three selected occupations related to child care and to identify those which are unique to the mother role and to the employee role and those which are common to both. The findings may serve as one basis for planning the curriculum in child development and guidance.

However, it is important to point out that the method employed in this study is only one way of ascertaining knowledges needed by mothers and employees in child care occupations. In addition, bases other than knowledges needed for a particular role should be considered in curriculum planning. Abilities and attitudes needed are also important. Socio-economic conditions and the impact of these on children, on families, and on the employment situation must be taken into account. Student needs, the local school situation, and developments with respect to teaching and learning--all of these are factors to be considered in planning the curriculum in child development and guidance.

Clearly, the present study provides only partial answers with respect to curriculum content in the area of child development and guidance. However, it is the hope of the investigator and of the director of the study that it may serve as a signpost--particularly for a problem area needing further investigation.

--Elizabeth Simpson
Project Director

ACKNOWLEDGEMENTS

The investigator wishes to express her appreciation to those who made the completion of this study possible. A special note of thanks is extended to Professor Elizabeth Simpson for serving as project director. The investigator is equally grateful to Miss Alice Brunner, Mrs. Alice Cox, and Mrs. Eva Moore who served as graduate research assistants on the project.

Time and efforts were solicited from a number of consultants including Professors M. Ray Karnes, Lloyd Phipps, Mary Mather, Thomas Hastings, and William McLure. The writer is also grateful to the staff of the Illinois Department of Children and Family Services for their suggestions and for providing lists from which the samples were drawn. Interviewees who cooperated in the collection of the data for the study are also thanked.

The investigator wishes to express her sincere appreciation to Dr. Mary Lee Hurt of the United States Office of Education for serving as coordinator for the project.

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CHAPTER I

INTRODUCTION

This study was made to ascertain the knowledges in child development and guidance needed by mothers and by employees in selected occupations related to child care and to identify those which are unique to the mother role and to the employee roles and those which are common to both.

Significance of the Study

The need to provide occupational preparation at the secondary level is evident when a number of factors concerning the employment situation are considered. Trends indicate a decrease in opportunities for the unskilled and increased demands for skilled, technical, service workers, and for ancillary manpower supportive of professional personnel. With less opportunity for the unskilled, those who leave school, either as drop-outs or as high school graduates, without vocational training or the means to attend college, face the world of work seriously handicapped.

The U.S. Commissioner of Education has predicted that between 30 and 40 percent of fifth-grade youngsters will not complete high school unless some vigorous reforms are made. Less than 20 percent of youngsters now in grade school will complete college. Schooling should prepare the 80 percent who will join the non-professional working population to start their working life.[1]

Another factor not to be overlooked in the employment situation is the increased proportion of women in the labor force. Since women are working and will continue to work outside the home in increasing numbers, preparing women for occupations as well as for homemaking should be given increased attention.

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[1] United States Department of Health, Education, and Welfare, Office of Education, Education for a Changing World of Work, No. 20020, Superintendent of Documents, United States Government Printing Office, Washington, D.C., 1962, pp. 2-3.

Federal legislation has provided funds through several vocational acts for the specific purposes of more adequately preparing students for their future roles in the world of work and for the vocation of homemaking. The most recent legislation of this nature is the Vocational Education Act of 1963. This act provides a clear mandate for broadening the goals of home economics education to include preparation for occupations requiring knowledges which traditionally have been considered a part of home economics as well as preparation for the vocation of homemaking. The question of including employment education in home economics at the secondary level remains a controversial issue, although it is certainly not a new idea. In 1944, Brown and Arneson[2] listed many service occupations requiring home economics knowledges and skills for which college preparation is not required. They recommended that adjustments be made in the secondary home economics curriculum in order to offer preparation for employment and that junior colleges and special trade schools offer terminal courses for those who cannot complete senior college. Also, Spafford,[3] in 1940, included in her text several possibilities for incorporating an employment emphasis in home economics programs.

Home economics education is faced with many new problems and challenges concerning education for occupations requiring knowledges and skills traditionally a part of the home economics curriculum. It is clear that a frontal attack on all these problems within one research design is unrealistic. Therefore, the present research will be limited to ascertaining to what extent employment education in certain occupations which require knowledges and skills usually considered a part of the field of home economics can be included in existing programs and to what extent employment education in these occupations is unique in nature and should be included in separate courses. This study is limited to the area of child development and guidance.

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[2] Clara Maude Brown and Ruth V. Arneson, Employment Opportunities for Women with Limited Home Economics Training, Burgess Publishing Co., Minneapolis, Minnesota, 1944, pp. 1-44.

[3] Ivol Spafford, Fundamentals in Teaching Home Economics, John Wiley and Sons, New York, 1942, p. 4.

The main task of this investigation is to ascertain opinions of practitioners and specialists in child development regarding the kind and depth of knowledge in child development and guidance needed by mothers and by employees in the following occupations: day care foster mother, day care center director, and child care assistant. The final chapter includes implications for curriculum development to prepare for motherhood and the occupations specified.

Definition of Terms

The following terms are used in a special way in this study.

Child care related occupations: Occupations which require knowledge in child development and guidance and which may legally be performed by those with less than college training.

Child development knowledge area: A homogeneous grouping of items of knowledges in child development such as physical development, social development, and intellectual development.

Mother: A natural or adoptive mother (1) with at least one child under six years of age, (2) who has had the responsibilities of motherhood three or more years, and (3) who is a member of the Home Economists in Homemaking section of the American Home Economics Association, and (4) has taken at least one course in child development at the college level.

Day care center: Any child care facility receiving 9 or more children for care during part or all of a day, between 6 a.m. and 9 p.m. The term includes facilities commonly called "child care centers," "day nurseries," "nursery schools," "kindergartens," and "play groups," but does not include "centers for mentally retarded"; bona fide kindergartens or nursery schools operated by public or private elementary or secondary level school systems; or those facilities operated in connection with a shopping center or service where transient children are received while parents are on the premises.[4]

Day care center director: One in charge of the program of child care, training, and development in a licensed day care center who shall have had some training at the college level, including advanced or special training in childhood development, and experience in working with groups of young children.

Child care assistants: One who works under the direct supervision of a day care center director in a licensed day care center. The term includes "aides," "attendants," and "student assistants."

Day care home: A foster family home which receives no more than four individual children, unless of common parentage, for day-time care only, with or without payment.[5]

Day care foster mother: One who cares for no more than four individual children, unless of common parentage, for day-time care only, with or without payment.

Practitioner: One who is a mother, day care foster mother, day care center director, or child care assistant as defined for purposes of this study.

Day care licensing representative: An employee of the Illinois Department of Children and Family Services who is responsible for carrying out provisions of the "Child Care Act" as it pertains to the licensing of day care centers.

Social worker: An employee of the Illinois Department of Children and Family Services who is responsible for carrying out the "Child Care Act" as it pertains to the licensing of day care homes.

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[4] Adapted from the Child Care Act, Illinois Revised Statutes, Chapter 23, 1965, Section 2308.

[5] Child Care Act, Illinois Revised Statutes, Chapter 23, 1965, Section 2308.

College child development specialist: One who teaches a course in child development, emphasizing infancy and the preschool years at the college or university level in the state of Illinois.

Professional: One who is a day care licensing representative, social worker, or child development specialist as defined in this study.

Region V: An 18-county area in east central Illinois comprised of the following counties: Champaign, Vermilion, Edgar, Clark, Cumberland, Coles, Douglas, Effingham, Shelby, Moultrie, Macon, Piatt, DeWitt, McLean, Ford, Livingston, Iroquois, and Kankakee.

Knowledge in child development and guidance: An understanding of a concept, principle, or topic in child development.

Basic Assumptions of the Study

There were certain basic assumptions pertinent to the study. It was assumed that those interviewed would be willing to respond. A statement, "This study is not a part of licensing," is included in the orientation to the study for workers in centers or homes requiring a license to operate. It was further assumed that workers and mothers interviewed were capable of responding accurately regarding the amount of knowledge in child development and guidance needed in their jobs. It was assumed that the instrument was understood and comprehended by the workers interviewed. Illinois Department of Children and Family Services licensing representatives who are in contact with workers in day care centers and homes were asked their opinions concerning wording of the items. Also a pilot survey of individuals in each sample aided in clarification of items for the final form of the instrument.

Another assumption was that identical responses for an item of knowledge were equal. It was also assumed that the response choices on the instrument were equidistant. A statement in the instructions asked the respondent to think of the checklist items as representing a continuum with the positions (1, 2, 3, 4, 5) equally spaced.

Another assumption is that the samples selected came from statistical populations which were normally distributed. It was also assumed that the interviewees were instructed in a uniform manner concerning response to the instrument.

Limitations of the Study

The study was delimited to include the study of three jobs related to child care and the job of mother to a preschool child. The study included items of knowledge only. The items of knowledge studied pertained only to care and guidance of infants and preschool children.

Objectives and Hypotheses

The purpose of this study was to ascertain professionals' and practitioners' assessments of the kind and depth of knowledge in child development and guidance needed by mothers and workers in selected occupations related to child care. Related to this objective, the following hypotheses were formulated.

1. The depth of knowledge in child development and guidance needed by mothers and employees in certain occupations related to child care is perceived differently by professionals than by the practitioners themselves.

2. Workers in two jobs, directors and assistants, in day care centers need different amounts of knowledge in child development and guidance.

3. Mothers and workers in three occupations related to child care need different amounts of knowledge in child development and guidance.

4. Workers in each of three occupations related to child care need different amounts of knowledge in child development and guidance.

Rationale Supporting the Hypotheses

Child development specialists, licensing representatives, and social workers were selected to offer expert judgment concerning knowledges mothers and employees in child care related occupations should have. It was anticipated that opinions of these professional groups would differ from the opinions of the practitioner groups concerning the depth of understanding needed in certain items of knowledge included in the study. For example, since a large proportion of the time and energy of mothers and employees in child care related occupations might be involved in the physical care of the children and the mechanics of managing a home or center, they might tend to rate items in the areas of social and intellectual development lower on the continuum than the professional groups.

The assistants in day care centers might need less depth in respect to some knowledges where the help of a qualified consultant is available and where taking time for consultative help would not interfere with the child's safety or emotional growth. Day care center directors might need knowledges for managing their businesses and guiding assistants under their directions.

Some knowledges might be needed for employment which might not be needed for motherhood. For example, those who work with large groups of children the same age might need knowledges concerning large group activities and anticipated problems when large numbers of children the same age are together, whereas mothers might need knowledges for caring for small groups as well as one child and for handling problems in caring for children in a heterogeneous age group.

It was also anticipated that each of the child care related occupations would require some different knowledges and different amounts of some knowledges in child development and guidance. For example, day care foster mothers might need knowledges for caring for infants whereas workers, directors and assistants, in day care centers might not.

CHAPTER II

REVIEW OF LITERATURE

The review of literature related to this study includes the areas of (1) job opportunities in occupations which require knowledges traditionally considered a part of home economics; (2) skills, training, and knowledges needed by workers in occupations related to home economics; and (3) methodology related to that used for this study.

Lists of possible jobs relating to each of seven areas of home economics were developed by Downs and True, Auburn, Maine, during the summer of 1962. This was followed by a survey of the community to ascertain what jobs requiring home economics knowledges and skills are available to high school students and adults with less than college training. A sizable list of job opportunities was produced.[1] This method of ascertaining job opportunities in local communities has been utilized in many places throughout the country. Another early study to ascertain employment opportunities in which home economics skills and knowledges were needed was conducted in the state of New York. Occupations were listed in job clusters in terms of special-interest courses. Jobs included in this list which were related to child development were (1) nursery school assistant, (2) home care of children workers, (3) child-care center aide, (4) community recreation assistant, and (5) recreation center aide.[2]

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[1] Helen Downs and Marcia True, Home Economics Can Help Prepare for Wage-Earning Occupations, Summer Workshop, University of Maine, Orono, Maine, 1962, pp. 1-8.

[2] Dorothy S. Lawson, "Is There a New Vocational Purpose in Home Economics Education," Conference Proceedings, A New Look at the Vocational Purpose of Home Economics Education, University of Illinois, Urbana, Illinois, May, 1963, p. 84.

The United States Department of Labor projects a 34 percent net increase in job openings for service workers in 1970 over 1960.[3] It is anticipated that many of these openings in service occupations will be home economics related. Among these occupations are a number in the area of child development and guidance for which preparation at less than college level is required.

The need for adequate child-care services is highlighted in a recent study on the status of women.[4] It was reported that such services are needed in all communities and at all socio-economic levels. The type of care needed includes full-day, half-day, after school, and intermittent care. This conclusion is based on the fact that licensed day care is available for only 185,000 children whereas the mother is sole support of children under 6 in half a million families. In 117,000 families with children under 6 only the father is present. Added to these figures are three million working mothers of children under 6 from intact families.[5] It is apparent that many mothers must resort to makeshift arrangements or leave their children without care. The report[6] also emphasizes the need for supervision of school-age children whose mothers must work during hours that the children are not in school and suggests ways in which this type of care could be provided.

In order to meet the need for child-care services, adequate programs of preparation for employment in child-care occupations must be expanded and must be realistic in the light of present and future needs. Therefore it is necessary to determine the actual requirements of these jobs in terms of knowledges and understandings necessary for performing the jobs.

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[3] United States Department of Labor, Bureau of Labor Statistics, Special Labor Force Report, No. 28, Superintendent of Documents, United States Government Printing Office, Washington, D.C., 1960, p. 244.

[4] Margaret Mead and Frances Balgley Kaplan, editors, American Women: The Report of the President's Commission on the Status of Women and Other Publications of the Commission, Charles Scribner's Sons, New York, 1965, 274 pp.

[5] Ibid., p. 36.

[6] Ibid., p. 37.

Some steps have already been taken which will be an aid in planning programs of preparation for employment in occupations related to child care. The United States Department of Health, Education, and Welfare selected "Child Day Care Center Worker" as one of nine selected service occupations, based on home economics knowledges and skills, for which to prepare suggested training materials. The suggested curriculum guides were prepared by the Manpower Development and Training Program in cooperation with national leaders in adult education.[7] Another project, conducted on a national basis, has sought to identify the basic concepts and generalizations in each area of home economics. Child development and guidance is included in one of these areas. This project was conducted through the combined efforts of subject-matter specialists, curriculum specialists, and outstanding secondary teachers.[8] Little research has been completed to determine the skills, training, and knowledges needed by workers in occupations related to home economics.

The occupation of fabric sales clerk has been identified as one in which knowledge of textiles and clothing could contribute. A study to ascertain the relationship between amount of knowledge concerning textiles and success in the occupation of fabric sales clerks was conducted by Helen Starck.[9] In this study fabric sales clerks who were rated "excellent" by their employers also rated in the upper half of the group on the test of knowledge. The results of this study would appear to support the possibility of a relationship between knowledge and job success in one occupation which requires knowledges in home economics.

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[7] United States Department of Health, Education, and Welfare, Office of Education, Manpower Development and Training Program, Suggested Guide, Child Day-Care Center Worker, U.S. Government Printing Office, Washington, D.C., 1964.

[8] National Curriculum Workshop, University of Missouri, June 1-14, 1964.

[9] Helen Starck, "Home Economics Education for Fabric Sales Clerks," Illinois Teacher of Home Economics, 8:3, 1964, pp. 147-153.

A doctoral thesis presently being conducted at the University of Connecticut by Fetterman will attempt to (1) determine over-all objectives for a work orientation program for home economics related occupations, (2) identify occupational areas for which pilot programs of instruction should be developed, and (3) develop guidelines and principles of instruction in home economics work orientation programs.[10]

Schill conducted a research project at the University of Illinois entitled Curricula Content for Technical Education.[11] He went directly to technicians to ascertain the nature of technical occupations and the knowledges related to such jobs. The technique proposed for the present investigation will also involve going directly to employees in the occupations selected for study. However, in the present investigation data were collected by checking knowledge items on a five-point scale rather than the Q-sort technique selected for the Schill study.

The findings of Schill's study have two implications for this proposal: First, there is an indication that completely separate programs are not needed for each area of technology. Many knowledges are related to all technologies studied and some of these are now included in the typical junior college program. Second, the traditional college directed high school program, rather than the occupationally-oriented program, was found to be in line with the needs of technicians. The first job held by an individual was not necessarily related to his career pattern. Schill's study clearly challenges vocational offerings at the high school level.

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[10] Elsie Fetterman, The Development of Work Orientation Programs for Home Economics Related Occupations, doctoral thesis proposal, University of Connecticut, Storrs, Connecticut.

[11] William J. Schill, Curricula Content for Technical Education, Cooperative Research Project No. 2048, University of Illinois, Urbana, Illinois, 1964.

A doctoral study completed in 1962 by Courtney, A Comparison of Knowledge and Experience Levels Required in Three Agricultural Occupations, compared common and/or differentiated agriculturally-oriented components among three selected agricultural occupations; namely, farm real estate broker, farm grain elevator operator-manager, and farmer. The method used in the Courtney study is similar to that proposed for this study.[12]

Another doctoral study completed by Fiscus at the University of Illinois, 1965, also utilized a method similar to that being proposed for this study. In the Fiscus study knowledges in agriculture needed by workers in farming were compared with knowledges needed in grain elevator businesses and agricultural equipment businesses. The primary purpose of this study was to ascertain courses in agriculture which would benefit those who will engage in these occupations. A five-point scale was used to measure depth or amount of knowledge needed in each of 103 items of knowledge in agriculture.[13]

Arnold compared the views of management and technicians concerning technical education curricula. His study casts doubt on the premise that management groups are the most knowledgeable in making curricular assessments.[14]

One of the primary objectives of a related study conducted by Arnold and supported by the cooperative Research Program of the U.S. Office of Education was to compare assessments made by management toward technical curricular content with assessments made by technicians. Arnold found a significant relationship between technicans and management responses concerning curriculum needed for technicians. On only 4 of 99 curriculum items were there significant differences between assessments made by management and assessments made by technicians.[15] The method proposed for the present study, including both professional and practitioner groups for assessments of knowledges needed by mothers and employees in occupations related to child care, is similar to that of the Arnold studies.

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[12] Elwood Courtney, A Comparison of Knowledge and Experience Levels Required in Three Agricultural Occupations, doctoral thesis, Purdue University, Lafayette, Indiana, 1962.

[13] Keith Fiscus, A Comparison of Certain Knowledges in Agriculture Needed by Workers in Farming, in Grain Elevator Businesses, and in Agricultural Equipment Businesses, doctoral thesis, University of Illinois, Urbana, Illinois, unpublished, 1965.

[14] Joseph Paul Arnold, Technical Education Curricular Recommendations by Management Representatives of Manufacturing Establishments in Illinois, doctoral thesis, University of Illinois, Urbana, Illinois, unpublished, 1965.

The literature tends to indicate an increased need to develop courses of study which prepare young people and adults for occupations which require knowledges and skills traditionally considered a part of home economics. No known research, however, has attempted to ascertain the kinds and amounts of knowledge needed for such occupations. This type of information is needed to ascertain the educational program for prospective homemakers and for employees in occupations related to home economics. This study will be limited to ascertaining the knowledges in child development and guidance needed for motherhood and for selected occupations related to child care.

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[15] Joseph Paul Arnold, A Study of Recommendations for Technical Education Curricula, Cooperative Research Project No. S-196, Purdue University, Lafayette, Indiana, 1965.

CHAPTER III

PROCEDURE

The Selection of the Sample

For purposes of this study, day care center directors[1] were selected from an 18-county area in east central Illinois. The counties in this area were Champaign, Vermilion, Edgar, Clark, Cumberland, Coles, Douglas, Effingham, Shelby, Moultrie, Macon, Piatt, DeWitt, McLean, Ford, Livingston, Iroquois, and Kankakee. This area is designated as Region V by the Illinois Department of Children and Family Services. This particular area was selected because (1) it is an area of diversity, including rural, urban, and industrial groups; (2) it included a high concentration of day care center directors, and (3) educators in the public schools in the area were becoming interested in employment education in occupations which require knowledges and skills usually considered a part of home economics. Day care center directors in this area, who met the criteria of the study, comprised one population selected for study.

Day care foster mothers were selected from the county of Champaign in the state of Illinois. This county was selected because it had the largest concentration of day care foster mothers of the counties in Region V. These foster mothers comprised one of the populations selected for study.

The mothers were selected from Champaign and Macon Counties in Illinois. These two counties were selected because they had a large concentration of the mothers who met the criteria.[2]

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[1] *Supra*, p. 4.

[2] *Supra*, p. 3.

The day care licensing representatives, college child development specialists, and social workers were selected from the entire state of Illinois. The population of social workers were those responsible for carrying out the "Child Care Act" as it pertains to day care homes.

In selecting the day care center directors, the investigator obtained a list of day care center directors from the Illinois Department of Children and Family Services for Region V who (1) met the criteria of the study[3] and (2) employed one or more persons in the center. In order to select the day care foster mothers, the investigator obtained a list from the Illinois Department of Children and Family Services for Champaign County. In order to select mothers, membership lists for the Home Economists in Homemaking section of the American Home Economics Association were obtained from chairmen of the Champaign and Macon county groups. Telephone calls ascertained which members met the criteria of the study.[4] A random sample[5] of 20 was selected from each of these three populations: day care center directors, day care foster mothers, and mothers of preschool children.

Lists of day care licensing representatives and social workers in Illinois were obtained from the Illinois Department of Children and Family Services. A list of college child development specialists was obtained by contacting the colleges and universities in Illinois. A random sample of ten was selected from each of these three populations: day care licensing representatives, social workers, and college child development specialists.

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[3] Supra, p. 4.

[4] Supra, p. 3.

[5] Allen L. Edwards, Statistical Methods for the Behavioral Sciences, Appendix, Table 1, Table of Random Numbers, Holt, Rinehart and Winston, New York, 1961, pp. 472-476.

The Dependent Variable

The instrument used in this study was a list of 68 items of knowledge in child development and guidance.[6] A numerical score ranging from one to five was judgmentally assigned by each interviewee to each item of knowledge in child development and guidance.

The following instructions were given to each interviewee in the sample of day care center directors.[7]

Instructions:

For each item in the list that follows, decide which of the following (1, 2, 3, 4, 5) best describes the depth of understanding necessary for the performance of your job as day care center director. Use the following key:

1. The performance of my job requires no understanding of this item.
2. The performance of my job requires only limited understanding of this item.
3. The performance of my job requires a reasonable understanding of this item.
4. The performance of my job requires considerable understanding of this item.
5. The performance of my job requires a thorough understanding of this item.

Think of these checklist items as representing a continuum with the positions (1, 2, 3, 4, 5) equally spaced. The number you select represents your judgment of the depth of understanding necessary to the performance of your job of day care center director.

These instructions varied only slightly for interviewees in the samples of day care foster mothers and mothers of preschool children.[8] In each case the individual was referring to his own job.

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[6] See Appendix H.

[7] See Appendix A.

Day care center directors were also asked to judgmentally assign numerical scores ranging from one to five concerning the depth of understanding needed in each of the 68 items by assistants in day care centers. The following instructions were also given to each interviewee in the sample of day care center directors.[9]

Instructions:

For each item in the list that follows, decide which of the following (1, 2, 3, 4, 5) best describes the depth of understanding _necessary for the performance of the job of day care center assistant_. Use the following key:

1. The performance of the job of day care center assistant requires _no understanding_ of this item.
2. The performance of the job of day care center assistant requires _only limited understanding_ of this item.
3. The performance of the job of day care center assistant requires a _reasonable understanding_ of this item.
4. The performance of the job of day care center assistant requires a _considerable understanding_ of this item.
5. The performance of the job of day care center assistant requires a _thorough understanding_ of this item.

Think of these checklist items as representing a continuum with the positions (1, 2, 3, 4, 5) equally spaced. The number you select represents your judgment of the depth of understanding necessary to the performance of the job of day care center assistant.

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[8] See Appendix B and C.

[9] See Appendix D.

These instructions varied only slightly for interviewees for the sample of day care licensing representatives, social workers, and college child development specialists who were making judgments about another's job. The day care licensing representatives were asked to judgmentally assign numerical scores ranging from one to five concerning the depth of understanding needed in each of 68 items of knowledge by day care center directors.[10] The social workers were asked to indicate the depth of understanding needed in the 68 items of knowledge by day care home foster mothers.[11] The child development specialists were asked to indicate the depth of understanding needed in the 68 items of knowledge by mothers of preschool children.[12]

Each item of knowledge in child development and guidance was treated independently. The instrument thus contained a total of 68 dependent variables.

Interviewees were also asked to indicate any knowledges needed other than the 68 items contained in the instrument. These items were analyzed separately.

Development of the Instrument

The instrument used for this study was designed to include a list of knowledges that would be most helpful in curriculum development in home economics. Understanding of principles, concepts, or topics in child development and guidance were included in the instrument for two reasons: (1) the understandings of the principles and concepts of a subject makes that subject more comprehensible to the learner, and (2) the understanding of the fundamental principles and concepts of a subject is closely related to effective transfer of the content to a practical situation.[13]

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[10] See Appendix E.

[11] See Appendix F.

[12] See Appendix G.

Since no instrument which measured the depth of understanding needed in child development and guidance was available, the investigator undertook the development of such an instrument. The following procedure was used to obtain items for the instrument: (1) concepts and generalizations in child development were taken from the materials developed under the leadership of the Home Economics Education Staff of the U.S. Office of Education; (2) references on group care of children were surveyed; (3) a list of textbooks and reference books on child development were presented to a jury of two staff members in Home Economics Education Division, Vocational and Technical Education Department, University of Illinois, and to two staff members of the Division of Child Development, Department of Home Economics, University of Illinois, for recommendations; (4) books[14] recommended by two or more of these four staff members and the references on group care of children were examined closely to identify the significant knowledges that were deemed important by the authors of the selected references and texts; (5) the knowledges deemed important by the authors of these references and texts were listed to make additions to and refinements of the concepts and generalizations; (6) the list of knowledges was grouped into the child development knowledge areas of physical and motor development of infants and preschool children, emotional and social development of infants and preschool children, and intellectual development of infants and preschool children.

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[13] Jerome S. Bruner, The Process of Education, Harvard University Press, Cambridge, Mass., 1962, p. 4.

[14] See Appendix J for a list of references and texts on child development and guidance selected for study.

The initial list of items was reviewed and delimited by a jury[15] of home economics education specialists, vocational education specialists, child development specialists and day care licensing representatives. The revised list of items of knowledge was used in a pilot survey of 18 individuals in the groups studied. Final revision followed the pilot survey. An open ended section was added to the instrument so that additions could be made by interviewees.

The Descriptive Data Questionnaire

The descriptive data questionnaire included three items of information. The three items were (1) years of formal schooling, (2) years of experience in the type of job you now hold, and (3) number of courses in the area of child care and guidance. The questionnaire for collecting the descriptive data is presented in Appendix I.

Interviewing Procedure

Ninety individuals were personally interviewed. The group consisted of the following: (1) 20 day care center directors, (2) 20 day care foster mothers, (3) 20 mothers of preschool children, (4) 10 day care licensing representatives, (5) 10 social workers, and (6) 10 child development specialists. Since day care center directors were asked to indicate not only the depth of understanding in the 68 items of knowledge needed to perform their own jobs but also the depth of understanding needed for day care center assistants, data collected from 110 instruments were included in the analysis.

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[15] Dr. Shirley M. Clark, Associate Professor of Sociology (formerly Associate Professor of Family Relationships), University of Illinois; Mrs. June Foster, day care licensing representative, Region V, Illinois Department of Children and Family Services; Mrs. Dan McClelland, supervisor of licensing, Region V, Illinois Department of Children and Family Services; Dr. Mary Mather, Associate Professor, Home Economics Education Division, Vocational and Technical Education, University of Illinois; Mrs. Eva Val Moore, Instructor in child development and chairman Home Economics Department, Delaware State College, Dover, Delaware; Dr. Lloyd Phipps, Professor and chairman, Agriculture Education Division, Vocational and Technical Education, University of Illinois; Dr. Elizabeth Simpson, Professor and chairman, Home Economics Education Division, Vocational and Technical Education, University of Illinois.

The following procedure was utilized for the 90 personal interviews: (1) a uniform introduction to the study and the instrument was given to each interviewee; (2) a copy of the instrument was handed to each interviewee; (3a) items on the instrument were verbally stated to the interviewee for samples of day care center directors, day care foster mothers, and mothers of preschool children and responses were recorded on the instrument as the verbal responses were received from the interviewee; (3b) items on the instrument were read and recorded silently by interviewees in the samples of professional workers: day care licensing representatives, social workers, and child development specialists; and (4) terms on the instrument that were not fully understood by the interviewees were replaced with a synonymous term or phrase by the interviewer.

Statistical Analysis

The main objective of this study was to ascertain professionals' and practitioners' assessments of the kind and depth of knowledge in child development and guidance needed by mothers and workers in selected occupations related to child care. As a part of this objective, the knowledges in child development and guidance which were common to the mother role and to the employee roles and the knowledges which were unique to the mother role and to each of the employee roles were identified. In order to accomplish the objective of this study, four null hypotheses were tested.

Null Hypothesis #1

Null hypothesis #1 states that there are no differences between the professionals' and practitioners' assessments concerning the depth of understanding in 68 items of knowledge in child development and guidance needed by mothers and employees in three occupations related to child care. Since null hypothesis #1 involved three groups of practitioners as compared to three professional groups, three subordinate null hypotheses were formulated. Subordinate null hypothesis #1a states that mothers' and child development specialists' perceptions of the depth of knowledge in child development and guidance needed by mothers of preschool children are equal. To test this subordinate null hypothesis with a t-test, the following statistical model was used:

$$HO(1a): \quad M_{11} = M_{12}$$

An explanation of the symbolic presentation of the statistical model used to test null hypothesis #1a is shown below.

M_{11} = the mean score for the items of knowledge in child development and guidance as scored by mothers of preschool children pertaining to their own jobs.

M_{12} = the mean score for the items of knowledge in child development and guidance as scored by college child development specialists pertaining to the job of mother to a preschool child.

Subordinate null hypothesis #1b states that day care foster mothers' and social workers' perceptions of the depth of knowledge in child development and guidance needed by day care foster mothers are equal. To test this subordinate null hypothesis with a t-test, the following statistical model was used:

$$HO(1b): \quad M_{21} = M_{22}$$

An explanation of the symbolic presentation of the statistical model used to test null hypothesis 1b is shown below.

M_{21} = the mean score for the items of knowledge in child development and guidance as scored by day care foster mothers pertaining to their own jobs.

M_{22} = the mean score for the items of knowledge in child development and guidance as scored by social workers pertaining to the job of day care foster mother.

Subordinate null hypothesis #1c states that day care center directors' and day care licensing representatives' perceptions of the depth of knowledge in child development and guidance needed by day care center directors are equal. To test null hypothesis #1c with a t-test, the following statistical model was used:

$$HO(1c): M_{31} = M_{32}$$

An explanation of the symbolic presentation of the statistical model used to test null hypothesis 1c is shown below.

M_{31} = the mean score for the items of knowledge in child development and guidance as scored by day care center directors pertaining to their own jobs.

M_{32} = the mean score for the items of knowledge in child development and guidance as scored by day care licensing representatives pertaining to the job as day care center director.

Null Hypothesis #2

Null hypothesis #2 states that the amount of knowledge in child development and guidance needed by workers in two jobs in day care centers is equal. To test the second null hypothesis with a t-test, the following statistical model was used.

$$HO(2): M_{31} = M_{41}$$

M_{31} = the mean score for the items of knowledge in child development and guidance as scored by day care center directors pertaining to their own jobs.

M_{41} = the mean score for the items of knowledge in child development and guidance as scored by day care center directors pertaining to the job of child care assistant.

Null Hypothesis #3

Null hypothesis #3 states that the depth of knowledge in child development and guidance needed by mothers, day care foster mothers, day care center directors, and child care assistants is equal. To test this null hypothesis by a one-way design analysis of variance test, the following statistical model was used:

$$HO(3): \quad M_{11} = M_{21} = M_{31} = M_{41}$$

Null Hypothesis #4

Null hypothesis #4 states that the depth of knowledge in child development and guidance needed by workers in three occupations--day care foster mothers, day care center directors, and child care assistants--related to child care is equal. To test this null hypothesis by a one-way design analysis of variance test, the following statistical model was used:

$$HO(4): \quad M_{21} = M_{31} = M_{41}$$

Statistical Testing Procedure

Four statistical tests were used in the analysis of the data in this study.[16] To test the significance of the descriptive data, the t-test and Duncan's Multiple Range Test were used. The method of computing simultaneous confidence intervals, developed by Tukey, was utilized to ascertain which of the group means were significantly different on each of the 68 items of knowledge. To test the null hypothesis, the t-test and a one-way design analysis of variance test were used. The null hypotheses were tested with the significance level established at .01.

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[16] A discussion of each of the four statistical tests is presented in Appendix K.

CHAPTER IV

FINDINGS FROM THE SAMPLES OF TWENTY MOTHERS AND TEN COLLEGE CHILD DEVELOPMENT SPECIALISTS

Twenty mothers of preschool children and ten college child development specialists were interviewed to obtain certain descriptive information and their opinions concerning the kind and amount of knowledge in the area of child development and guidance needed by mothers of preschool children. The mothers comprised a sample drawn randomly from the members of the Home Economists in Homemaking section of the American Home Economics Association who met the criteria of the study[1] and reside in Champaign and Macon Counties in Illinois. The college child development specialists were selected randomly from a list of those who teach courses in child development at the college or university level in the state of Illinois.

Descriptive Data

The three items of descriptive data obtained from twenty mothers of preschool children and ten child development specialists are presented in Table 1.

The sample of twenty mothers had completed an average of 16.4 years of formal schooling. The group had been mothers for an average of five years and had completed an average of 2.1 courses in child development at the college level. The child development specialists had completed an average of nineteen years of formal schooling, had taught child development a mean of 7.95 years and had completed an average of five courses in child development.

The t-test was used to determine whether there were significant differences between the means of the scores assigned by mothers and means of the

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[1] Supra, p. 3.

TABLE 1

EDUCATION AND EXPERIENCE OF MOTHERS AND CHILD DEVELOPMENT SPECIALISTS INTERVIEWED CONCERNING KNOWLEDGES NEEDED BY MOTHERS OF PRESCHOOL CHILDREN

Item	Means Mothers N = 20	Means Child Development Specialists N = 10
Years of formal schooling	16.4	19.00
Years of experience	5.00	7.95
Number of courses in child development	2.10	5.00

Note.--"Years of experience" for the group of mothers refers to their experience as a mother. This item for child development specialists refers to years of experience as an instructor of child development.

scores assigned by child development specialists on two of the items of descriptive data. The child development specialists had more years of formal schooling and more courses in child development. The differences were significant at the .01 level with a two-tailed test. Since "experience" for the group of mothers refers to experience as a mother and for specialists in child development refers to experience as an instructor in child development, this item is not comparable for the two groups.

Kind and Amount of Knowledge in Child Development and Guidance Needed by Mothers of Preschool Children

The mean of the scores assigned by the mothers of preschool children was computed for each item. The items of knowledge were grouped into seven categories according to these means. The seven groups ranged from (1) 4.50 to 5.00, (2) 4.00 to 4.45, (3) 3.50 to 3.95, (4) 3.00 to 3.45, (5) 2.50 to 2.95, (6) 2.00 to 2.45, and (7) 1.00 to 1.95.

Items of Knowledge With Mean Scores Ranging from 4.50 to 5.00

There were no items of knowledge in this group.

Items of Knowledge With Mean Scores Ranging from 4.00 to 4.45

For the sample of mothers of preschool children, there were thirty items of knowledge in child development and guidance with mean scores ranging from 4.00 to 4.45. Mean scores of these thirty items are presented in Table 2. Means of the thirty items as scored by child development specialists concerning the job of mother to a preschool child are included in Table 2 for comparison.

Items of Knowledge With Mean Scores Ranging from 3.50 to 3.95

For the sample of twenty mothers of preschool children there were twenty-nine items of knowledge with a mean score in the 3.50 to 3.95 range. The mean scores for these items and the means as scored by child development specialists pertaining to the job of mother to a preschool child for the same items are included in Table 3.

Items of Knowledge With Mean Scores Ranging from 3.00 to 3.45

There were nine items of knowledge in this group according to the means as scored by the sample of mothers of preschool children. Mean scores for these items are presented in Table 4 with the means for the same items as scored by the child development specialists concerning the depth of knowledge needed by mothers of preschool children.

Items of Knowledge With Mean Scores Below 3.00

There were no items of knowledge with a mean score below 3.00.

TABLE 2

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 4.00 TO 4.45
AS SCORED BY A SAMPLE OF TWENTY MOTHERS, AND COMPARED
WITH MEAN SCORES OF TEN CHILD DEVELOPMENT SPECIALISTS

Item of knowledge	Mean scores: Mothers N = 20	Mean scores: Child Development Specialists N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the nutritional needs of infants	4.00	3.70	.91
Understanding the nutritional needs of preschool children..........................	4.35	4.00	1.17
Understanding the eating behavior patterns (e.g., food habits)......................	4.00	3.80	.61
Understanding the importance of sanitation of facilities and equipment as related to child care...........................	4.15	3.90	.73
Understanding health and safety measures (immunization, regular medical checkups, supervised play) which apply to child care	4.45	4.50	1.86
Understanding care of children's minor illnesses and common diseases of childhood...	4.15	3.90	.86
Understanding methods of handling children's sex behavior and sex interests...........	4.00	4.70	2.74
Understanding the individual differences in physical and motor development in children	4.15	4.00	.41
Understanding how to select children's play materials and equipment..................	4.05	4.20	.63
Understanding the techniques of caring for the needs of several preschool children at one time.............................	4.50	3.70	1.15
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the basic emotional and personality needs of individuals..........	4.25	4.40	.54
Understanding the symptoms of serious behavior problems........................	4.20	4.10	.36
Understanding the factors determining personality development..................	4.15	4.00	.47
Understanding the development and duration of children's attitudes and interests........	4.10	4.00	.34
Understanding the differences in emotional and social development..................	4.20	4.20	.00
Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumbsucking, etc.)....	4.25	4.40	.51

TABLE 2--Continued

Item of knowledge	Mean scores: Mothers N = 20	Mean scores: Child Development Specialists N = 10	t Ratio
Understanding ways of handling sibling rivalry (jealousy among brothers and sisters)................................	4.15	4.20	.15
Understanding the importance of group experience in the social development of children	4.10	4.10	.00
Understanding the moral development of children (e.g., honesty)..................	4.30	3.80	1.98
Understanding the importance of adult models in determining behavior, values and attitudes of children....................	4.25	4.40	.58
Understanding the importance of discipline in the development of self-control in children................................	4.25	4.30	.20
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the influence of formal and informal learning experiences on the intellectual development of children......	4.10	3.90	.60
Understanding how children learn (principles of learning)...........................	4.25	3.40	2.46
Understanding the importance of creative expression in children....................	4.00	4.10	.38
Understanding how to select stories, poems, television, movies, comics, records, and music for young children..................	4.25	4.00	.86
Understanding the importance of sex education for young children.......................	4.15	4.20	.17
OTHER			
Understanding the legal regulations regarding child-care occupations....................	4.15	2.70	3.83*
Understanding the principles of employer-employee relationships in child-care centers or homes.........................	4.00	2.20	4.86*
Understanding qualities parents expect of child-care workers.......................	4.45	2.90	4.75*
Understanding what child-care workers expect of parents.............................	4.20	3.10	3.06*

*Significant at $<$ .01 level

TABLE 3

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 3.50 TO 3.95 AS SCORED BY A SAMPLE OF TWENTY MOTHERS, AND COMPARED WITH MEAN SCORES OF TEN CHILD DEVELOPMENT SPECIALISTS

Item of knowledge	Mean scores: Mothers N = 20	Mean scores: Child Development Specialists N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding methods of preparing food for preschool children	3.60	3.90	.92
Understanding methods of weaning from breast to bottle and/or bottle to cup	3.55	3.90	.98
Understanding the importance of encouraging self-help in dressing the preschool child	3.90	4.50	.19
Understanding how to care for clothing of infants and preschool children	3.50	3.20	.79
Understanding the importance of personal cleanliness (for adult and child) as related to child care	3.90	4.20	.84
Understanding care of the cutaneous system (skin, hair, nails, etc.)	3.55	3.20	1.17
Understanding the development and care of children's teeth	3.90	3.80	.31
Understanding the sleep needs of infants and preschool children	3.55	3.50	.13
Understanding the physical environment and emotional atmosphere needed for sleep	3.55	3.80	.69
Understanding children's need for exercise and activity	3.80	4.40	2.22
Understanding the toilet training methods	3.90	4.60	2.12
Understanding the reflexes (swallowing, sneezing, coughing, sucking, etc.) which are present at birth	3.60	2.90	1.55
Understanding the order in which physical and motor development occurs in children	3.80	3.70	.27
Understanding how to guide children's motor development	3.90	3.90	.00
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding ways of helping children overcome common fears	3.95	4.20	.79
Understanding emotional aspects involved in establishing eating habits	3.80	4.10	1.02
Understanding the stages (steps of development) of emotional growth	3.75	3.90	.45

TABLE 3--Continued

Item of knowledge	Mean scores Mothers N = 20	 Child Development Specialists N = 10	t Ratio
Understanding the importance of social development in children....................	3.95	4.10	.48
Understanding the importance of studying (observing, comparing) emotional and social development of children............	3.80	2.90	2.31
Understanding ways to guide group play among children................................	3.65	3.60	.15
Understanding how children acquire religious ideals..................................	3.90	3.80	.28
Understanding the emotional and social adjustment problems of physically or mentally handicapped children......................	3.85	4.20	.93
Understanding the importance of recognizing differences in cultural values............	3.90	3.50	1.02
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding language development patterns of young children.........................	3.65	3.70	.16
Understanding the relationship of the development of the senses to learning ability in children.......................	3.70	3.10	1.57
Understanding factors which influence language development in children..........	3.85	4.00	.38
Understanding the development of reasoning and problem solving ability in children...	3.85	3.30	1.45
Understanding children's use of imitation and imagination.............................	3.85	4.10	.93
Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children.....	3.90	3.90	.00

TABLE 4

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 3.00 TO 3.45
AS SCORED BY A SAMPLE OF TWENTY MOTHERS, AND COMPARED
WITH MEAN SCORES OF TEN CHILD DEVELOPMENT SPECIALISTS

Item of knowledge	Mean scores: Mothers N = 20	Mean scores: Child Development Specialists N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding ways of feeding infants........	3.40	3.60	.54
Understanding methods of preparing food for infants..................................	3.00	3.40	1.03
Understanding the methods and equipment used for bathing babies.......................	3.25	3.40	.38
Understanding how to diaper and dress infants	3.35	3.80	.97
Understanding how to select clothing for infants..................................	3.25	3.60	.93
Understanding how to select clothing for the preschool child..........................	3.45	3.80	1.11
Understanding the functions of glands of external and internal secretion...........	3.20	2.30	1.96
Understanding ways of caring for children's play materials and equipment.............	3.00	3.50	.15
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time).................	3.40	2.70	1.99

Other Items of Knowledge Needed by Twenty Mothers

In response to the open-ended section of the instrument, seven additional items of knowledge in child development and guidance were suggested by the sample of twenty mothers of preschool children. None of the suggested items were mentioned by more than one of the twenty mothers included in the sample.

1. Understanding the importance of teaching children to care and respect their own possessions and those of others.
2. Understanding the methods of discipline.
3. Understanding the importance of experience (i.e., teaching Sunday School classes) in guiding groups of children.
4. Understanding the importance of patience as it pertains to child care.
5. Understanding relationships with grandparents pertaining to child care.
6. Understanding the importance of educating parents concerning the activities and health care in child care centers.
7. Understanding the importance of the physical layout in facilitating child care.

Other Items of Knowledge Needed by Mothers According to Child Development Specialists

In response to the open-ended section of the instrument, the specialists in child development suggested two additional items in child development and guidance that were needed by mothers of preschool children. Neither item was suggested by more than one specialist.

1. Understanding the importance of physical and emotional prenatal care.
2. Understanding the child's need for affection and security.

Comparison of Perceptions of Mothers and Child Development Specialists Concerning the Kind and Amount of Knowledge in Child Development and Guidance Needed by Mothers of Preschool Children

The t-test was used to determine significant differences between means of scores assigned by mothers and the means of scores assigned by child development specialists on each of 68 items of knowledge in child development and guidance.

On four of the sixty-eight items of knowledge the differences between means for the two groups were significant at the .01 level. On each of these four items of knowledge in child development and guidance, the mothers of preschool children indicated that they needed significantly more depth than was indicated by the sample of child development specialists as necessary for mothers of preschool children.

All four items of knowledge in which the means as scored by mothers were significantly different from the means as scored by child development specialists were included in the category designated as "other." The four items were:

1. Understanding the legal regulations regarding child care occupations.
2. Understanding the principles of employer-employee relationships in child care centers or homes.
3. Understanding qualities parents expect of child care workers.
4. Understanding what child care workers expect of parents.

It should be noted that all four of these items are in regard to care of children by child care workers. The mothers may have felt these items to be highly important in the event that they were to place their own children in the care of others. The child development specialists may have indicated less depth than mothers believing that many mothers of preschool children would not use child care facilities.

Another possibility is that the child development specialists, aware of the many detailed regulations regarding child care facilities, believed that mothers did not need a knowledge of these details. On the other hand, mothers might have thought of the regulations primarily in terms of the qualifications of those who would care for the children. If this is true, their expressed concern is understandable.

Summary of the Items of Knowledge in Child Development and Guidance Needed by Mothers

The mean scores for sixty-eight items of knowledge were 3.88 and 3.78 respectively as scored by mothers and child development specialists. A t-test was used to ascertain whether or not there was a significant difference between the means for the sixty-eight items in child development and guidance as scored by mothers and child development specialists concerning the job of mother to a preschool child. There was no significant difference between the means assigned by the twenty mothers and the ten child development specialists.

The investigator came to the following conclusions:

1. The twenty mothers and ten child development specialists indicated that mothers need a considerable understanding of most of the sixty-eight items of knowledge in child development and guidance.
2. The depth of knowledge in child development and guidance needed by mothers was perceived similarly by the ten child development specialists and the twenty mothers of preschool children.

Results of the Statistical Analysis of Null Hypothesis #1a

Null hypothesis #1a states that mothers' and child development specialists' perceptions of the depth of knowledge in child development and guidance needed by mothers of preschool children are equal.

As the preceding analysis of data indicates, null hypothesis #1a cannot be rejected.

CHAPTER V

FINDINGS FROM THE SAMPLES OF TWENTY DAY CARE FOSTER MOTHERS AND TEN SOCIAL WORKERS

Twenty day care foster mothers[1] and ten social workers[2] were interviewed to obtain certain descriptive information and opinions concerning the kind and amount of knowledge in child development and guidance needed by day care foster mothers. The day care foster mothers comprised a sample drawn randomly from a list of licensed day care foster mothers in Champaign County provided by the Illinois Department of Children and Family Services. The social workers were selected randomly from a list of social workers in the state of Illinois who are employees of the Illinois Department of Children and Family Services and who are responsible for carrying out the provisions of the "Child Care Act" as it pertains to day care homes.

Descriptive Data

The three items of descriptive data obtained from twenty day care foster mothers and ten social workers are presented in Table 5.

The sample of twenty day care foster mothers had completed an average of eleven years of formal schooling. The group had a mean of 3.68 years of experience as foster mothers and had completed an average of .55 courses in child development. The social workers had completed an average of 16.2 years of formal schooling. They had a mean of 2.08 years of experience as social workers and had completed an average of 3.9 courses in child development and guidance.

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[1] *Supra*, p. 4.

[2] *Supra*, p. 4.

TABLE 5

EDUCATION AND EXPERIENCE OF DAY CARE FOSTER MOTHERS AND SOCIAL WORKERS INTERVIEWED CONCERNING KNOWLEDGES NEEDED BY DAY CARE FOSTER MOTHERS

	Means	
Item	Day care Mothers N = 20	Social Workers N = 10
Years of formal schooling	11	16.2
Years of experience	3.68	2.08
Number of courses in child development	.55	3.90

Note.--"Years of experience" for the group of day care foster mothers refers to their experience as day care foster mothers. This item for social workers refers to years of experience as a social worker.

For two of the three items of descriptive data, the t-test was used to determine whether there were significant differences between means as scored by day care foster mothers and the means as scored by social workers. On the items "years of formal schooling" and "number of courses in child development," the means for social workers were higher and the differences were significant at the .01 level with a two-tailed test. On the item of descriptive data "years of experience," the day care foster mothers had more experience as day care foster mothers than the social workers had as social workers. The differences were not treated statistically as this item for the two groups was not comparable.

Kind and Amount of Knowledge in Child Development and Guidance Needed by Day Care Foster Mothers

Items of Knowledge With Mean Scores Ranging from 4.50 to 5.00

There were no items of knowledge in this group.

Items of Knowledge With Mean Scores Ranging from 4.00 to 4.45

There were eight items of knowledge with means ranging from 4.00 to 4.45 as scored by the sample of day care foster mothers. Mean scores of these eight items are presented in Table 6 with comparison means of the eight items as scored by social workers concerning the job of day care foster mother.

TABLE 6

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 4.00 TO 4.45 AS SCORED BY A SAMPLE OF TWENTY DAY CARE FOSTER MOTHERS, AND COMPARED WITH MEAN SCORES OF TEN SOCIAL WORKERS

Item of knowledge	Mean scores: Day care Mothers N = 20	Mean scores: Social Workers N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the importance of personal cleanliness (for adult and child) as related to child care	4.00	4.10	.41
Understanding health and safety measures (immunization, regular medical checkups, supervised play) which apply to child care	4.20	4.30	.30
Understanding the techniques of caring for the needs of several preschool children at one time	4.45	4.00	1.71
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the moral development of children (e.g., honesty)	4.00	3.00	1.68
OTHER			
Understanding the legal regulations regarding child-care occupations	4.00	3.60	1.15
Understanding the principles of employer-employee relationships in child-care centers or homes	4.00	3.60	1.11
Understanding qualities parents expect of child-care workers	4.25	3.80	1.48
Understanding what child-care workers expect of parents	4.10	3.70	1.12

Items of Knowledge With Mean Scores Ranging from 3.50 to 3.95

There were thirty-one items of knowledge with means in the 3.50 to 3.95 range as scored by the sample of twenty day care foster mothers. The mean scores of these items and means as scored by social workers pertaining to the job of day care foster mothers for the same items are included in Table 7.

Items of Knowledge With Mean Scores Ranging from 3.00 to 3.45

There were twenty items of knowledge in this group according to the means as scored by the sample of day care foster mothers. Mean scores for these items are presented in Table 8 with mean scores of the same items as scored by the ten social workers concerning the depth of knowledge needed by day care foster mothers.

Items of Knowledge With Mean Scores Ranging from 2.50 to 2.95

There were four items of knowledge in this group according to the means as scored by the sample of day care foster mothers. Mean scores of the four items are presented in Table 9 with mean scores of the same items as scored by the social workers pertaining to the depth of understanding needed by day-care foster mothers.

Items of Knowledge With Mean Scores Ranging from 2.00 to 2.45

There were three items of knowledge in child development and guidance with means ranging from 2.00 to 2.45 as scored by the sample of day-care foster mothers. Mean scores for these items are presented in Table 10 with comparison means for the three items as scored by social workers concerning the depth of understanding in child development and guidance needed by day-care foster mothers.

TABLE 7

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 3.50 TO 3.95
AS SCORED BY A SAMPLE OF TWENTY DAY CARE FOSTER MOTHERS,
AND COMPARED WITH MEAN SCORES OF TEN SOCIAL WORKERS

Item of knowledge	Mean scores		t Ratio
	Day care Mothers N = 20	Social Workers N = 10	
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the nutritional needs of preschool children	3.60	3.80	.67
Understanding ways of feeding infants	3.50	3.30	.55
Understanding the eating behavior patterns (e.g., food habits)	3.65	3.40	.75
Understanding the importance of encouraging self-help in dressing the preschool child	3.55	3.50	.19
Understainding the importance of sanitation of facilities and equipment as related to child care	3.95	4.30	1.23
Understanding care of children's minor illnesses and common diseases of childhood	3.65	4.00	1.05
Understanding the sleep needs of infants and preschool children	3.65	3.60	.18
Understanding the physical environment and emotional atmosphere needed for sleep	3.55	3.60	.19
Understanding the children's need for exercise and activity	3.65	3.90	.93
Understanding the toilet training methods	3.85	4.20	1.27
Understanding methods of handling children's sex behavior and sex interests	3.65	4.20	1.60
Understanding the individual differences in physical and motor development in children	3.50	3.10	1.37
Understanding how to select children's play materials and equipment	3.55	3.30	.74
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the basic emotional and personality needs of individuals	3.70	3.80	.34
Understanding the symptoms of serious behavior problems	3.90	3.80	.33
Understanding the factors determining personality development	3.50	3.30	.82
Understanding the development and duration of children's attitudes and interests	3.50	3.40	.46
Understanding the individual differences in emotional and social development	3.85	3.60	.71

TABLE 7--Continued

Item of knowledge	Mean scores Day care Mothers N = 20	 Social Workers N = 10	t Ratio
Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumb-sucking, etc.)............	3.95	3.70	.88
Understanding ways of handling sibling rivalry (jealousy among brothers and sisters).......	3.55	3.70	.43
Understanding ways of helping children overcome common fears...............................	3.70	3.40	1.01
Understanding the importance of group experience in the social development of children..	3.60	3.50	.35
Understanding ways to guide group play among children................................	3.60	3.80	.67
Understanding the importance of discipline in the development of self-control in children.	3.80	3.90	.39
Understanding the emotional and social adjustment problems of physically or mentally handicapped children.......................	3.95	3.50	.95
Understanding the importance of recognizing differences in cultural values.............	3.50	3.70	.63
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the influence of formal and informal learning experiences on the intellectual development of children........	3.50	3.00	2.28
Understanding the development of reasoning and problem solving ability in children.........	3.60	2.80	2.70
Understanding children's use of imitation and imagination................................	3.70	3.70	.00
Understanding how children learn (principles of learning)..............................	3.50	3.40	.37
Understanding how to select stories, poems, television, movies, comics, records, and music for young children..................	3.55	4.00	1.41

TABLE 8

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 3.00 TO 3.45 AS SCORED BY A SAMPLE OF TWENTY DAY CARE FOSTER MOTHERS, AND COMPARED WITH MEAN SCORES OF TEN SOCIAL WORKERS

Item of knowledge	Mean scores Day care Mothers N = 20	Mean scores Social Workers N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the nutritional needs of infants.	3.30	3.90	1.71
Understanding methods of preparing food for preschool children	3.25	3.40	.48
Understanding how to diaper and dress infants..	3.00	3.60	1.81
Understanding the reflexes (swallowing, sneezing, coughing, sucking, etc.) which are present at birth	3.00	2.80	.49
Understanding the order in which physical and motor development occurs in children	3.30	3.00	.83
Understanding how to guide children's motor development	3.45	3.30	.57
Understanding ways of caring for children's play materials and equipment	3.40	3.10	1.20
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding emotional aspects involved in establishing eating habits	3.40	3.30	.38
Understanding the stages (steps of development) of emotional growth	3.30	3.20	.37
Understanding the importance of social development in children	3.45	3.60	.52
Understanding the importance of studying (observing, comparing) emotional and social development of children	3.35	3.00	1.18
Understanding the importance of adult models in determining behavior, values and attitudes of children	3.40	3.80	1.21
Understanding how children acquire religious ideals	3.05	2.70	.99
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding language development patterns of young children	3.35	3.30	.18
Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time)	3.25	2.70	1.89

TABLE 8--Continued

Item of knowledge	Mean scores Day care Mothers N = 20	 Social Workers N = 10	t Ratio
Understanding the relationship of the development of the senses to learning ability in children..................................	3.45	3.10	1.52
Understanding factors which influence language development in children.....................	3.35	3.10	1.11
Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children.......	3.10	3.30	.56
Understanding the importance of creative expression in children.....................	3.45	3.90	1.54
Understanding the importance of sex education for young children.........................	3.30	4.10	1.70

TABLE 9

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 2.50 TO 2.95 AS SCORED BY A SAMPLE OF TWENTY DAY CARE FOSTER MOTHERS, AND COMPARED WITH MEAN SCORES OF TEN SOCIAL WORKERS

Item of knowledge	Mean scores Day care Mothers N = 20	 Social Workers N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding methods of preparing food for infants....................................	2.85	3.50	1.50
Understanding methods of weaning from breast to bottle and/or from bottle to cup...........	2.95	3.60	1.64
Understanding the methods and equipment used for bathing babies........................	2.80	3.20	1.10
Understanding how to select clothing for the preschool child...........................	2.70	2.60	.26

TABLE 10

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 2.00 TO 2.45 AS SCORED BY A SAMPLE OF TWENTY DAY CARE FOSTER MOTHERS, AND COMPARED WITH MEAN SCORES OF TEN SOCIAL WORKERS

Item of knowledge	Mean score: Day care Mothers N = 20	Mean score: Social Workers N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding how to select clothing for infants	2.45	2.70	.63
Understanding how to care for clothing of infants and preschool children..............	2.40	2.50	.31
Understanding care of the cutaneous system (skin, hair, nails, etc.)..................	2.45	3.10	1.99

Items of Knowledge With Mean Scores Ranging from 1.50 to 1.95

There were two items of knowledge in child development and guidance with means in this group as scored by twenty day-care foster mothers. Mean scores for the two items are compared with means for the two items by social workers concerning the job of day-care foster mother. See Table 11.

Other Items of Knowledge Needed by Day Care Foster Mothers

In response to the open-ended section of the instrument, the following item was suggested by a social worker interviewed concerning knowledges needed by day care foster mothers:

> Understanding the importance of the ability to mother children other than your own.

The twenty day care foster mothers did not suggest additional items of knowledge in child development and guidance needed to perform their jobs.

TABLE 11

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 1.50 TO 1.95
AS SCORED BY A SAMPLE OF TWENTY DAY CARE FOSTER MOTHERS
AND COMPARED WITH MEAN SCORES OF TEN SOCIAL WORKERS

Item of knowledge	Mean score: Day care Mothers N = 20	Mean score: Social Workers N = 10	t Ratio
Understanding the development and care of children's teeth...........................	1.90	2.70	2.74
Understanding the function of glands of external and internal secretion.............	1.95	2.30	.89

Comparison of Perceptions of Day Care Foster Mothers and Social Workers Concerning the Kind and Amount of Knowledge in Child Development and Guidance Needed by Day Care Foster Mothers

The t-test was used to determine significant differences between means as scored by social workers and the means as scored by day care foster mothers on each of the sixty-eight items of knowledge in child development and guidance. There were no items of knowledge in which the differences between means for the two groups were significant at the .01 level.

Summary of the Items of Knowledge in Child Development And Guidance Needed by Day Care Foster Mothers

The grand mean scores for all items of knowledge were 3.45 for day care mothers and 3.46 for social workers. A t-test was used to ascertain whether or not there was a significant difference between the grand means for the sixty-eight items in child development and guidance as scored by day care foster mothers and social workers concerning the job of foster mother. There was no significant difference between the means as scored by the day care foster mothers and the ten social workers.

The investigator came to the following conclusions:

1. Relatively few items of knowledge were given a high priority by the twenty day care foster mothers and ten social workers concerning the job of day care foster mother. Only eight items of knowledge had mean scores of 4.00 or more.
2. Highest priority was given to (a) those items of knowledge essential to the health and safety of the children in the care of the day care foster mother and (b) those items of knowledge pertaining to relationships.
3. The twenty day care foster mothers and ten social workers indicated a need for a reasonable understanding of a large proportion of the sixty-eight items of knowledge in child development and guidance by day care foster mothers.
4. Low priority was given to those items of knowledge that (a) were indirectly related to the job of the day care foster mother or (b) were highly technical.
5. The depth of knowledge in child development and guidance needed by day care foster mothers was perceived similarly by the ten social workers and the twenty day care foster mothers.

Results of the Statistical Analysis of Null Hypothesis #1b

Null hypothesis #1b states that day care foster mothers' and social workers' perceptions of the depth of knowledge in child development and guidance needed by day care foster mothers are equal.

As the preceding analysis of data indicates, null hypothesis #1 cannot be rejected.

CHAPTER VI

FINDINGS FROM THE SAMPLES OF DAY CARE CENTER DIRECTORS AND DAY CARE LICENSING REPRESENTATIVES

Twenty day care center directors[1] and ten day care licensing representatives[2] were interviewed to obtain certain descriptive information and opinions concerning the kind and amount of knowledge in the area of child development and guidance needed by day care center directors. The directors were also asked to give their opinions concerning the kind and amount of knowledge in child development and guidance needed by child care assistants under their direction. The directors studied were in charge of the programs of twenty day care centers randomly selected from a list of day care centers in Region V[3] which met the criteria of the study.[4] The day care licensing representatives were selected randomly from a list of day care licensing representatives in the state of Illinois, employed by the Department of Children and Family Services.

Descriptive Data

The three items of descriptive data obtained from twenty day care center directors and ten day care licensing representatives are presented in Table 12.

The sample of twenty day care center directors had completed an average of 15.37 years of formal schooling. The group had a mean of 9.19 years of experience as day care center directors and had completed an average of 3.55 courses in child development. The day care licensing representatives had completed an average of 16.10 years of formal schooling. The group had a mean of 4.62 years experience as licensing representatives and had completed an average of 6.5 courses in child development.

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[1] *Supra*, p. 4.

[2] *Supra*, p. 4.

[3] *Supra*, p. 5.

[4] *Supra*, p. 3.

TABLE 12

EDUCATION AND EXPERIENCE OF DAY CARE CENTER DIRECTORS AND LICENSING REPRESENTATIVES INTERVIEWED CONCERNING KNOWLEDGES NEEDED BY DAY CARE CENTER WORKERS

	Means	
Item	Day care Directors N = 20	Licensing Representatives N = 10
Years of formal schooling	15.37	16.10
Years of experience	9.19	4.62
Number of courses in child development	3.55	6.50

Note.--"Years of experience" for the group of day care center directors refers to their experience as day care center directors. This item for day care licensing representatives refers to years of experience as a licensing representative.

For two of the three items of descriptive data, the t-test was used to determine whether there were significant differences between means of the day care center directors and the means of the day care licensing representatives. On the item "years of formal schooling" the mean of the ten licensing representatives was higher than the mean of the day care center directors. The difference was not statistically significant. The licensing representatives had completed more courses in child development than the day care center directors. The difference was significant at the .01 level with a two-tailed test.

On the item "years of experience," the licensing representatives had less experience as licensing representatives than the day care center directors had as day care center directors. Successful experience as day care directors is a prerequisite for licensing representatives. Hence, means on this item are not comparable.

Kind and Amount of Knowledge in Child Development and Guidance Needed by Day Care Center Directors

Items of Knowledge With Mean Scores Ranging from 4.50 to 5.00

There were thirty-seven items of knowledge with means ranging from 4.50 to 5.00 as scored by the sample of day care center directors. Mean scores of these thirty-seven are presented in Table 13 with comparison means of the thirty-seven items as scored by day care licensing representatives concerning the job of day care center director.

Items of Knowledge With Mean Scores Ranging from 4.00 to 4.45

There were nineteen items of knowledge with mean scores ranging from 4.00 to 4.45 according to assignments by the sample of day care center directors. Mean scores of these items are presented in Table 14 with means of the same items as scored by day care licensing representatives concerning the job of day care center director.

Items of Knowledge With Mean Scores Ranging from 3.50 to 3.95

There were only two items of knowledge with mean scores ranging from 3.50 to 3.95 as scored by the sample of day care center directors. Mean scores of these items are presented in Table 15 with means for the same items as scored by the ten day care licensing representatives concerning the depth of knowledge needed by day care center directors.

TABLE 13

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 4.50 TO 5.00
AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS
AND COMPARED WITH MEAN SCORES OF TEN
DAY CARE LICENSING REPRESENTATIVES

Item of knowledge	Mean scores: Directors N = 20	Mean scores: Licensing Representatives N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the importance of personal cleanliness (for adult and child) as related to child care.....	4.80	4.60	.99
Understanding the importance of sanitation of facilities and equipment as related to child care..............	5.00	4.80	2.16
Understanding health and safety measures (immunization, regular medical checkups, supervised play) which apply to child care.........................	4.95	4.90	.50
Understanding care of children's minor illnesses and common diseases of childhood.........................	4.65	4.50	.68
Understanding children's need for exercise and activity...............	4.65	5.00	1.87
Understanding methods of handling children's sex behavior and sex interests.........................	4.60	4.70	.41
Understanding the order in which physical and motor development occurs in children..........................	4.85	4.60	1.53
Understanding the individual differences in physical and motor development in children..........................	4.80	4.70	.50
Understanding how to guide children's motor development....................	4.75	4.70	.28
Understanding how to select children's play materials and equipment........	4.65	4.90	1.25
Understanding ways of caring for children's play materials and equipment.	4.50	4.50	.00
Understanding the techniques of caring for the needs of several preschool children at one time...............	4.80	4.90	.67

TABLE 13--Continued

Item of knowledge	Mean scores Directors N = 20	Mean scores Licensing Representatives N = 10	t Ratio
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the basic emotional and personality needs of individuals....	4.65	4.90	1.46
Understanding the symptoms of serious behavior problems..................	4.75	4.80	.25
Understanding the factors determining personality development............	4.70	4.90	1.21
Understanding the development and duration of children's attitudes and interests.........................	4.55	4.80	1.05
Understanding the individual differences in emotional and social development.	4.60	4.80	1.08
Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumb-sucking, etc.).....................	4.80	4.90	.67
Understanding ways of helping children overcome common fears..............	4.50	4.90	1.94
Understanding emotional aspects involved in establishing eating habits	4.60	4.70	.52
Understanding the importance of social development in children............	4.55	4.80	1.17
Understanding the importance of group experience in the social development of children........................	4.65	4.90	1.46
Understanding the importance of studying (observing, comparing) emotional and social development of children..	4.50	4.70	1.03
Understanding ways to guide group play among children.....................	4.70	4.80	.50
Understanding the moral development of children (e.g., honesty)...........	4.70	4.70	.00
Understanding the importance of adult models in determining behavior, values and attitudes of children....	4.50	4.60	.37
Understanding the importance of discipline in the development of self-control in children................	4.70	4.90	1.21

TABLE 13--Continued

Item of knowledge	Mean scores: Directors N = 20	Mean scores: Licensing Representatives N = 10	t Ratio
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the relationship of the development of the senses to learning ability in children............	4.65	4.30	1.47
Understanding the influence of formal and informal learning experiences on the intellectual development of children..........................	4.55	4.60	.20
Understanding the development of reasoning and problem solving ability in children..........................	4.55	4.60	.20
Understanding children's use of imitation and imagination...............	4.65	4.50	.62
Understanding how children learn (principles of learning)...........	4.60	4.60	.00
Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children.....................	4.65	4.60	.21
Understanding the importance of creative expression in children.........	4.70	4.80	.43
Understanding how to select stories, poems, television, movies, comics, records and music for young children	4.80	4.70	.51
OTHER			
Understanding the principles of employer-employee relationships in child-care centers or homes.........	4.50	4.60	.37
Understanding qualities parents expect of child-care workers..............	4.55	4.30	1.03

TABLE 14

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 4.00 TO 4.45 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS AND COMPARED WITH MEAN SCORES OF TEN DAY CARE LICENSING REPRESENTATIVES

Item of knowledge	Mean scores: Directors N = 20	Mean scores: Licensing Representatives N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the nutritional needs of preschool children..................	4.40	4.30	.31
Understanding the eating behavior patterns (e.g., food habits)........	4.10	4.50	1.11
Understanding methods of preparing food for preschool children...............	4.20	4.40	.46
Understanding the importance of encouraging self-help in dressing the preschool child.....................	4.40	4.50	.37
Understanding how to select clothing for the preschool child............	4.00	3.30	1.69
Understanding care of the cutaneous system (skin, hair, nails, etc.)....	4.05	3.90	.42
Understanding the sleep needs of infants and preschool children.............	4.40	4.30	.38
Understanding the physical environment and emotional atmosphere needed for sleep.............................	4.45	4.70	.88
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding ways of handling sibling rivalry (jealousy among brothers and sisters).......................	4.10	4.30	.65
Understanding emotional aspects involved in establishing eating habits....	4.10	4.70	2.20
Understanding how children acquire religious ideals...................	4.00	3.80	.62
Understanding the emotional and social adjustment problems of physically or mentally handicapped children....	4.00	4.10	.23
Understanding the importance of recognizing differences in cultural values.	4.15	4.40	.83

TABLE 14--Continued

Item of knowledge	Mean scores Directors N = 20	Mean scores Licensing Representatives N = 10	t Ratio
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding language development patterns of young children..........	4.40	4.60	.75
Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time).............................	4.35	4.20	.48
Understanding factors which influence language development in children....	4.45	4.30	.53
Understanding the importance of sex education for young children........	4.10	4.50	1.16
OTHER			
Understanding the legal regulations regarding child-care occupations....	4.45	4.20	.79
Understanding qualities parents expect of child-care workers..............	4.35	4.50	.57

TABLE 15

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 3.50 TO 3.95 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS AND COMPARED WITH MEAN SCORES OF TEN DAY CARE LICENSING REPRESENTATIVES

Item of knowledge	Mean scores Directors N = 20	Mean scores Licensing Representatives N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the development and care of children's teeth.................	3.70	3.30	1.16
Understanding toilet training methods..	3.65	4.90	3.26*

*Significant at the < .01 level

Items of Knowledge With Mean Scores Ranging from 3.00 to 3.45

There were two items of knowledge with means ranging from 3.00 to 3.45 as scored by the sample of day care center directors. Mean scores of these items are presented in Table 16 with comparison means for the two items as scored by day care licensing representatives concerning the job of day care center director.

Items of Knowledge With Mean Scores Ranging from 2.50 to 2.95

There were no items with means from 2.50 to 2.95 as scored by the twenty day care center directors.

Items of Knowledge With Mean Scores Ranging from 2.00 to 2.45

There was only one item of knowledge in child development and guidance with a mean between 2.00 to 2.45 according to the scores by the sample of twenty day care center directors. The mean of this item is presented in Table 17 with the comparison mean for the item as scored by the ten day care

TABLE 16

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 3.00 TO 3.45 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS AND COMPARED WITH MEANS OF TEN DAY CARE LICENSING REPRESENTATIVES

Item of knowledge	Mean scores		t Ratio
	Directors N = 20	Licensing Representatives N = 10	
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding how to care for clothing of infants and preschool children...	3.25	2.90	.89
Understanding the functions of glands of external and internal secretion..	3.25	2.90	.93

TABLE 17

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 2.00 TO 2.45 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS AND COMPARED WITH MEANS OF TEN DAY CARE LICENSING REPRESENTATIVES

Item of knowledge	Mean scores		t Ratio
	Directors N = 20	Licensing Representatives N = 10	
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the reflexes (swallowing, sneezing, coughing, sucking, etc.) which are present at birth..........	2.35	3.20	2.11

licensing representatives.

Items of Knowledge With Mean Scores Ranging from 1.50 to 1.95

There were seven items of knowledge in child development and guidance with means ranging from 1.50 to 1.95 as scored by day care center directors. In Table 18 means of these items are compared with means for the items as scored by the day care center representatives concerning the job of day care center director.

TABLE 18

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 1.50 TO 1.95 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS AND COMPARED WITH MEANS OF TEN DAY CARE LICENSING REPRESENTATIVES

Item of knowledge	Mean scores: Directors N = 20	Mean scores: Licensing Representatives N = 10	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
Understanding the nutritional needs of infants............................	1.80	2.60	1.74
Understanding ways of feeding infants..	1.80	2.30	1.11
Understanding methods of preparing food for infants........................	1.75	2.00	.52
Understanding methods of weaning from breast to bottle and/or from bottle to cup............................	1.55	2.20	1.61
Understanding the methods and equipment used for bathing babies.............	1.65	1.80	.32
Understanding how to diaper and dress infants............................	1.70	2.00	.63
Understanding how to select clothing for infants........................	1.75	1.90	.35

Other Items of Knowledge Needed by Twenty Day Care Center Directors

In response to the open-ended section of the instrument, the following four additional items of knowledge in child development and guidance were suggested by the sample of day care center directors:

1. Understanding the importance of having a sense of humor.
2. Understanding what is expected of a child who enters the first grade.
3. Understanding the importance of training children to accept responsibility.
4. Understanding the importance of maintaining organization.

None of the four items was suggested by more than one of the interviewees in this group.

Other Items of Knowledge Needed by Day Care Center Directors According to Day Care Licensing Representatives

In response to the open-ended section of the instrument, day care licensing representatives suggested the following four additional items in child development and guidance needed by day care center directors:

1. Understanding the relationship of day care centers to other agencies in the community.
2. Understanding methods of keeping records in day care centers.
3. Understanding the importance of developing a self-concept.
4. Understanding the criteria for indoor and outdoor physical facilities for children.

None of these four items was suggested by more than one of the ten day care licensing representatives included in the sample.

Comparison of Perceptions of Day Care Center Directors and Day Care Licensing Representatives Concerning the Kind and Amount of Knowledge in Child Development and Guidance Needed by Day Care Center Directors

The t-test was used to determine significant differences between means as scored by day care center directors and the means as scored by day care licensing representatives on each of the sixty-eight items of knowledge in child development and guidance.

On only one of the sixty-eight items of knowledge, "Understanding the toilet training methods," was the difference between means for the two groups significant at the .01 level. On this item the day care center licensing representatives indicated that more knowledge was needed by day care center directors than the directors themselves indicated that they needed. The difference was significant at the .01 level.

One reason for this difference might be that the day care center directors interviewed did not have children in their care who were not toilet trained and therefore did not give high priority to this item. The day care licensing representatives may have given high priority to the item believing that directors of day care centers should be able to assume responsibility for toilet training. Another possibility is that some of the licensing representatives interviewed may have day care centers in their territories that accept very young children.

Summary of the Items of Knowledge in Child Development and Guidance Needed by Day Care Center Directors

The grand means for all of the items of knowledge were 4.14 and 4.21 respectively for day care center directors and day care licensing representatives. A t-test was used to ascertain whether or not there was a significant difference between the grand means for the sixty-eight items of knowledge in child development and guidance as scored by day care center directors and day care licensing representatives. There was no significant difference between the means as scored by the twenty day care center directors and the ten licensing representatives pertaining to the job of day care center director.

The investigator by inspection came to the following conclusions:

1. A large proportion of the items of knowledge were assigned a high mean score. Fifty-six of the sixty-eight items of knowledge had mean scores of 4.00 or more according to means as scored by the day care center directors. These involved activities which seem to the investigator to be essential to the success of the day care center.
2. Secondary priority was given to those items of knowledge that involved advice to mothers or were indirectly connected with the job of day care center director.
3. Lowest priority was given to those items of knowledge that were incidental or not applicable to the jobs of the twenty day care center directors included in the study.

Results of the Statistical Analysis of Null Hypothesis #1c

Null hypothesis #1c states that day care center directors' and day care licensing representatives' perceptions of the depth of knowledge in child development and guidance needed by day care center directors are equal.

As the preceding analysis of data indicates, null hypothesis #1c cannot be rejected.

Kind and Amount of Knowledge in Child Development and Guidance Needed by Child Care Assistants in Twenty Day Care Centers According to the Directors of These Centers

Items of Knowledge With Mean Scores Ranging from 4.50 to 5.00

There were two items of knowledge with means ranging from 4.50 to 5.00 as scored by the sample of day care center directors concerning the job of child care assistant. Mean scores of these two items are presented in Table 19.

TABLE 19

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 4.50 TO 5.00 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS CONCERNING THE JOB OF CHILD CARE ASSISTANT

Item of knowledge	Mean scores
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding the importance of personal cleanliness (for adult and child) as related to child care..................	4.60
Understanding the importance of sanitation of facilities and equipment as related to child care.........................	4.65

Items of Knowledge With Mean Scores Ranging from 4.00 to 4.45

There were eleven items of knowledge with means ranging from 4.00 to 4.45 as scored by twenty day care center directors concerning the job of child care assistant. Mean scores for these items are presented in Table 20.

Items of Knowledge With Mean Scores Ranging from 3.50 to 3.95

There were thirty-five items of knowledge in child development and guidance with mean scores ranging from 3.50 to 3.95. The mean scores of these thirty-five items are found in Table 21.

TABLE 20

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 4.00 TO 4.45 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS CONCERNING THE JOB OF CHILD CARE ASSISTANT

Item of knowledge	Mean scores
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding the importance of encouraging self-help in dressing the preschool child	4.15
Understanding health and safety measures (immunization, regular medical check-ups, supervised play) which apply to child care	4.45
Understanding children's need for exercise and activity	4.15
Understanding methods of handling children's sex behavior and sex interests	4.00
Understanding how to guide children's motor development	4.10
Understanding the techniques of caring for the needs of several preschool at one time	4.35
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding the basic emotional and personality needs of individuals	4.05
Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumb-sucking, etc.)	4.00
Understanding ways to guide group play among children	4.10
Understanding the moral development of children (e.g., honesty)	4.00
Understanding the importance of discipline in the development of self-control in children	4.05

TABLE 21

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 3.50 TO 3.95 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS CONCERNING THE JOB OF CHILD CARE ASSISTANT

Item of knowledge	Mean scores
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding the eating behavior patterns (e.g., food habits)	3.60
Understanding methods of preparing food for preschool children	3.75
Understanding care of children's minor illnesses and common diseases of childhood	3.95
Understanding care of the cutaneous system (skin, hair, nails, etc.)	3.65
Understanding the sleep needs of infants and preschool children	3.90
Understanding the physical environment and emotional atmosphere needed for sleep	3.95
Understanding the toilet training methods	3.55
Understanding the order in which physical and motor development occurs in children	3.85
Understanding the individual differences in physical and motor development in children	3.95
Understanding ways of caring for children's play materials and equipment	3.85
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding the symptoms of serious behavior problems	3.80
Understanding the factors determining personality development.	3.70
Understanding the development and duration of children's attitudes and interests	3.70
Understanding the individual differences in emotional and social development	3.80
Understanding ways of helping children overcome common fears	3.95
Understanding emotional aspects involved in establishing eating habits	3.50
Understanding the stages (steps of development) of emotional growth	3.80
Understanding the importance of social development in children	3.85
Understanding the importance of group experience in the social development of children	3.95
Understanding the importance of studying (observing, comparing) emotional and social development of children	3.70
Understanding the importance of adult models in determining behavior, values and attitudes in children	3.90
Understanding the importance of recognizing differences in cultural values	3.65

TABLE 21--Continued

Item of knowledge	Mean scores
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding language development patterns of young children.	3.70
Understanding the relationship of the development of the senses to learning ability in children....................	3.65
Understanding factors which influence language development in children..	3.60
Understanding the influence of formal and informal learning experiences on the intellectual development of children....	3.70
Understanding use of imitation and imagination...............	3.85
Understanding the development of reasoning and problem solving ability in children..	3.70
Understanding how children learn (principles of learning).....	3.90
Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children..	3.80
Understanding the importance of creative expression in children..	3.80
Understanding how to select stories, poems, television, movies, comics, records, and music for young children.............	3.70
Understanding the importance of sex education for young children..	3.50
OTHER	
Understanding the principles of employer-employee relationships in child-care centers or homes.......................	3.75
Understanding qualities parents expect of child-care workers..	3.60

Items of Knowledge With Mean Scores Ranging from 3.00 to 3.45

There were ten items of knowledge in child development and guidance with means scores ranging from 3.00 to 3.45. The mean scores of these ten items are presented in Table 22.

Items of Knowledge With Mean Scores Ranging from 2.50 to 2.95

There were two items of knowledge in this group. The mean scores of these two items of knowledge are presented in Table 23.

TABLE 22

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 3.00 TO 3.45
AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS
CONCERNING THE JOB OF CHILD CARE ASSISTANT

Item of knowledge	Mean scores
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding the nutritional needs of preschool children.....	3.45
Understanding how to select clothing for the preschool child..	3.25
Understanding the development and care of children's teeth....	3.45
Understanding how to select children's play materials and equipment..	3.45
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding ways of handling sibling rivalry (jealousy among brothers and sisters)......................................	3.45
Understanding how children acquire religious ideals..........	3.35
Understanding the emotional and social adjustment problems of physically or mentally handicapped children................	3.35
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time)..................................	3.40
OTHER	
Understanding the legal regulations regarding child-care occupations...	3.15
Understanding what child-care workers expect of parents.......	3.45

TABLE 23

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 2.50 TO 2.95
AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS
CONCERNING THE JOB OF CHILD CARE ASSISTANT

Item of knowledge	Mean scores
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding how to care for clothing of infants and preschool children..	2.80
Understanding the functions of glands of external and internal secretion....................................	2.75

Items of Knowledge With Mean Scores
Ranging from 2.00 to 2.45

There were no items of knowledge with mean scores ranging from 2.00 to 2.45.

Items of Knowledge With Mean Scores
Ranging from 1.50 to 1.95

There were three items of knowledge in child development and guidance with mean scores ranging from 1.50 to 1.95. Mean scores of these items are presented in Table 24.

Items of Knowledge With Mean Scores
Ranging from 1.00 to 1.45

There were five items of knowledge with mean scores ranging from 1.00 to 1.45. Mean scores of these items are presented in Table 25.

TABLE 24

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 1.50 TO 1.95 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS CONCERNING THE JOB OF CHILD CARE ASSISTANT

Item of knowledge	Mean scores
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding the nutritional needs of infants.................	1.50
Understanding the methods and equipment used for bathing babies..	1.50
Understanding the reflexes (swallowing, sneezing, coughing, sucking, etc.) which are present at birth..................	1.80

TABLE 25

ITEMS OF KNOWLEDGE WITH MEAN SCORES RANGING FROM 1.00 TO 1.45 AS SCORED BY A SAMPLE OF TWENTY DAY CARE CENTER DIRECTORS CONCERNING THE JOB OF CHILD CARE ASSISTANT

Item of knowledge	Mean scores
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
Understanding ways of feeding infants..........................	1.45
Understanding methods of preparing food for infants...........	1.45
Understanding methods of weaning from breast to bottle and/or from bottle to cup...	1.35
Understanding how to diaper and dress infants..................	1.40
Understanding how to select clothing for infants..............	1.45

Summary of the Items of Knowledge in Child Development and Guidance Needed by Child Care Assistants

The mean score for all the items of knowledge in child development and guidance as scored by day care center directors pertaining to the job of child care assistant was 3.49.

The investigator came to the following conclusions:

1. There were only thirteen items of knowledge with mean scores of 4.00 or more indicating that day care center directors believe that the job of child care assistant requires less depth in child development and guidance than is necessary for the performance of their own jobs as day care center directors.
2. High priority was given to items essential to the health, safety and emotional growth of the child.
3. Secondary priority was given to items such as "how to select children's play materials and equipment" where a delay for obtaining professional advice would not interfere with the child's safety or emotional growth.
4. Low priority was given to items which were incidental or not applicable to the job of child care assistant in the day care centers included in the study.

Summary of Knowledges in Child Development and Guidance Needed by Workers in Two Jobs in Day Care Centers

The means for all sixty-eight items of knowledge as scored by day care center directors pertaining to their own jobs and the jobs of the child care assistants in their centers were 4.14 and 3.49 respectively.

A t-test was used to determine whether or not there were significant differences between the grand mean scores on all items for the two jobs in day care centers as scored by day care center directors. The difference between the grand mean scores for the two jobs was significant at the .01 level. A t-test was also used to determine on which items of knowledge in child development and guidance there were significant differences for the two jobs.

On thirty-three of the sixty-eight items of knowledge in child development and guidance the means as scored by directors pertaining to their own jobs were significantly higher, at the .01 level, than the means representing scores which they assigned for the job of child care assistant. There were no items in which the job of child care assistant received the higher mean score. See Table 26. The thirty-three items on which the significant differences were found came from all child development knowledge areas included in the study. The mean scores for the day care center directors were significantly higher on seven of the thirty-two items grouped under physical and motor development of infants and preschool children, twelve of the twenty items grouped under emotional and social development of infants and preschool children, eleven of the twelve items grouped under intellectual development of infants and preschool children, and three of the four items included under the topic "other."

The investigator concluded that directors in the day care centers selected for study believe that they need more depth in child development and guidance than they believe is needed by their assistants, particularly in the areas of social and emotional development and intellectual development of infants and children.

Results of the Statistical Anslysis of Null Hypothesis #2

Null hypothesis #2 states that the amount of knowledge in child development and guidance needed by workers in two jobs in day care centers is equal.

As the preceding analysis of data indicates, null hypothesis #2 was rejected. The alternative hypothesis that workers in two jobs in day care centers need different amounts of knowledge in child development and guidance is tenable.

TABLE 26

COMPARISON OF MEANS OF EACH ITEM FOR TWO OCCUPATIONS IN DAY CARE CENTERS AS SCORED BY TWENTY DAY CARE CENTER DIRECTORS

Item of knowledge	Mean scores Directors	Mean scores Assistants	t Ratio
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
1. Understanding the nutritional needs of infants	1.80	1.50	1.06
2. Understanding the nutritional needs of preschool children	4.40	3.45	3.64*
3. Understanding ways of feeding infants.	1.80	1.45	1.16
4. Understanding the eating behavior patterns	4.10	3.60	1.61
5. Understanding methods of preparing food for infants	1.75	1.45	.87
6. Understanding methods of preparing food for preschool children	4.20	3.75	1.28
7. Understanding methods of weaning from breast to bottle and/or from bottle to cup	1.55	1.35	.77
8. Understanding the methods and equipment used for bathing babies	1.65	1.50	.42
9. Understanding how to diaper and dress infants	1.70	1.40	.96
10. Understanding the importance of encouraging self-help in dressing the preschool child	4.40	4.15	1.05
11. Understanding how to select clothing for infants	1.75	1.45	.94
12. Understanding how to select clothing for the preschool child	4.00	3.25	2.31
13. Understanding how to care for clothing of infants and preschool children.	3.25	2.80	1.44
14. Understanding the importance of personal cleanliness (for adult and child) as related to child care	4.80	4.60	1.12
15. Understanding the importance of sanitation of facilities and equipment as related to child care.	5.00	4.65	2.33
16. Understanding health and safety measures (immuization, regular medical checkups, supervised play) which apply to child care	4.95	4.45	2.82*
17. Understanding care of children's minor illnesses and common diseases of childhood	4.65	3.95	3.09*
18. Understanding care of the cutaneous system (skin, hair, nails, etc.)	4.05	3.65	1.43

TABLE 26--Continued

Item of knowledge	Mean scores Directors	 Assistants	t Ratio
19. Understanding the development and care of children's teeth................	3.70	3.45	1.11
20. Understanding the sleep needs of infants and preschool children.....	4.40	3.90	2.14
21. Understanding the physical environment and emotional atmosphere needed for sleep...........................	4.45	3.95	1.84
22. Understanding children's need for exercise and activity..............	4.65	4.15	2.12
23. Understanding the toilet training methods.........................	3.65	3.55	.28
24. Understanding methods of handling children's sex behavior and sex interests.......................	4.60	4.00	2.56
25. Understanding the reflexes (swallowing, sneezing, coughing, sucking, etc.) which are present at birth...	2.35	1.80	1.84
26. Understanding the order in which physical and motor development occurs in children.................	4.85	3.85	5.85*
27. Understanding individual differences in physical and motor development in children......................	4.80	3.95	4.40*
28. Understanding how to guide children's motor development.................	4.75	4.10	3.21*
29. Understanding the functions of glands of external and internal secretion.	3.25	2.75	1.55
30. Understanding how to select children's play materials and equipment.......	4.65	3.45	4.46*
31. Understanding ways of caring for children's play materials and equipment.........................	4.50	3.85	2.61
32. Understanding the techniques of caring for the needs of several preschool children at one time..............	4.80	4.35	2.36
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
33. Understanding the basic emotional and personality needs of individuals...	4.65	4.05	2.79*
34. Understanding the symptoms of serious behavior problems..................	4.75	3.80	4.25*
35. Understanding the factors determining personality development............	4.70	3.70	4.81*
36. Understanding the development and duration of children's attitudes and interests.....................	4.55	3.70	3.18*

TABLE 26--Continued

Item of knowledge	Mean scores Directors	 Assistants	t Ratio
37. Understanding the individual differences in emotional and social development........................	4.60	3.80	3.32*
38. Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumb-sucking, etc.)..............	4.80	4.00	3.76*
39. Understanding ways of handling sibling rivalry (jealousy among brothers and sisters)......................	4.10	3.45	2.28
40. Understanding ways of helping children overcome common fears.............	4.50	3.95	2.19
41. Understanding emotional aspects involved in establishing eating habits............................	4.10	3.50	2.34
42. Understanding stages (steps of development) of emotional growth........	4.60	3.80	3.67*
43. Understanding the importance of social development in children...........	4.55	3.85	3.09*
44. Understanding the importance of group experience in the social development of children..................	4.65	3.95	3.26*
45. Understanding the importance of studying (observing, comparing) emotional and social development of children.......................	4.50	3.70	3.38*
46. Understanding ways to guide group play among children....................	4.70	4.10	2.49
47. Understanding the moral development of children (e.g., honesty)..........	4.70	4.00	3.04*
48. Understanding the importance of adult models in determining behavior, values, and attitudes of children..	4.50	3.90	2.44
49. Understanding how children acquire religious ideals..................	4.00	3.35	2.15
50. Understanding the importance of discipline in the development of self-control in children...............	4.70	4.05	3.25*
51. Understanding the emotional and social adjustment problems of physically or mentally handicapped children...	4.00	3.35	1.99
52. Understanding the importance of recognizing differences in cultural values............................	4.15	3.65	1.87

TABLE 26--Continued

Item of knowledge	Mean scores Directors	Assistants	t Ratio
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN			
53. Understanding language development patterns of young children.........	4.40	3.70	2.98*
54. Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time)..........................	4.35	3.40	3.83*
55. Understanding the relationship of the development of the senses to learning ability in children.......	4.65	3.65	4.46*
56. Understanding factors which influence language development in children...	4.45	3.60	3.73*
57. Understanding the influence of formal and informal learning experiences on the intellectual development of children..........................	4.55	3.70	4.00*
58. Understanding the development of reasoning and problem solving ability in children...............	4.55	3.70	4.00*
59. Understanding children's use of imitation and imagination..............	4.65	3.85	3.57*
60. Understanding how children learn (principles of learning)...........	4.60	3.90	3.16*
61. Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children.....................	4.65	3.80	3.55*
62. Understanding the importance of creative expression in children....	4.70	3.80	4.21*
63. Understanding how to select stories, poems, television, movies, comics, records, and music for young children..........................	4.80	3.70	4.64*
64. Understanding the importance of sex education for young children.......	4.10	3.50	2.04
OTHER			
65. Understanding the legal regulations regarding child-care occupations...	4.45	3.15	3.84*
66. Understanding the principles of employer-employee relationships in child-care centers or homes........	4.50	3.75	2.63

TABLE 26--Continued

Item of knowledge	Mean scores		t Ratio
	Directors	Assistants	
67. Understanding qualities parents expect of child-care workers.......	4.55	3.60	3.09*
68. Understanding what child-care workers expect of parents..................	4.35	3.45	3.23*

*Significant at the < .01 level

CHAPTER VII

COMPARISON OF FINDINGS FOR MOTHERS AND WORKERS IN OCCUPATIONS RELATED TO CHILD CARE

The following is a comparative analysis of the findings for mothers and workers in selected occupations related to child care. The jobs selected for study, in addition to mother of a preschool child, were (1) day care foster mother, (2) day care center director, and (3) child care assistant.

Descriptive Data

The three items of descriptive data obtained from mothers, day care foster mothers, and day care center directors are presented in Table 27. The average number of years of formal schooling for the sixty practitioners interviewed was 14.20. The practitioners had completed a mean of 2.07 courses in child development. A mean number of years of experience was not calculated for the combined group as this item was not comparable for the three samples.

TABLE 27

EDUCATION AND EXPERIENCE OF MOTHERS, DAY CARE FOSTER MOTHERS, AND DAY CARE CENTER DIRECTORS INTERVIEWED CONCERNING KNOWLEDGES NEEDED TO PERFORM THEIR JOBS

	Means			
Items	Mothers N = 20	Day care Mothers N = 20	Day care Directors N = 20	All Interviewees N = 60
Years of formal schooling	16.40	11	15.37	14.26
Years of experience	5.80	3.68	9.19	--
Number of courses in child development	2.10	.55	3.55	2.07

For the items "years of formal schooling" and "number of courses in child development," Duncan's Multiple Range Test was used to determine which means were significantly different. The day care foster mothers had a significantly different mean score located in the left tail of the distribution of ordered mean scores on both of these items.

Summary of the Items of Knowledge in Child Development Needed by Mothers and Workers in Selected Occupations Related to Child Care

The following analysis includes opinions of twenty mothers of preschool children, twenty day care foster mothers, and twenty day care center directors concerning the knowledges needed to perform their jobs. The twenty day care center directors were also asked for their opinions concerning knowledges needed by the child care assistants under their direction. Therefore eighty questionnaires were included in this analysis. The grand mean for all sixty-eight items of knowledge as scored for each job is included in Table 28. The grand mean score for all sixty-eight items of knowledge as scored on eighty questionnaires was 3.74. The grand mean scores for the four jobs ranged from 3.45 for day care foster mothers to 4.14 for day care center directors.

TABLE 28

GRAND MEAN SCORES FOR THE ITEMS OF KNOWLEDGE IN CHILD DEVELOPMENT AND GUIDANCE AS SCORED IN EIGHTY QUESTIONNAIRES FOR MOTHERS AND WORKERS IN THREE JOBS RELATED TO CHILD CARE

Type of Job		Means
Mother to a preschool child	N = 20	3.88
Day care foster mother	N = 20	3.45
Day care center director	N = 20	4.14
Child care assistant[a]	N = 20	3.49
All questionnaires	N = 80	3.74

[a] Twenty day care center directors were interviewed concerning knowledges needed for their jobs as well as opinions concerning knowledges needed by the child care assistants under their direction.

A one-way design analysis of variance was used to determine whether or not there were significant differences among the mean scores for four jobs related to child care. There was a significant difference at the .01 level among the mean scores for the four jobs related to child care.

Duncan's Multiple Range Test was used to determine for which jobs the means were different at the .01 level. The day care center directors had a significant mean score located in the right tails of the distribution of ordered mean scores. The day care foster mothers and day care assistants had significant mean scores located in the left tails of the distribution of ordered mean scores.

The mean scores for mothers of preschool children, day care foster mothers, day care center directors, and child care assistants were also compared on each of the sixty-eight items of knowledge. In order to determine whether mothers and workers in three jobs related to child care need different amounts of knowledge in each item in child development and guidance, a one-way design analysis of variance test was calculated for each item. There was a significant difference at the .01 level among the four means on fifty-six of the sixty-eight items of knowledge.

The method of computing simultaneous confidence intervals developed by Tukey was utilized to ascertain which group means were significantly different on each of the sixty-eight items of knowledge.

On item number one the mean for mothers of preschool children was significantly different than the means for the three jobs related to child care. On this item, "Understanding the nutritional needs of infants," the mean as scored by mothers was higher than the means representing the three jobs related to child care. See Figure 1.

There were three items of knowledge on which the mean score for day care foster mothers was significantly different from the means representing the

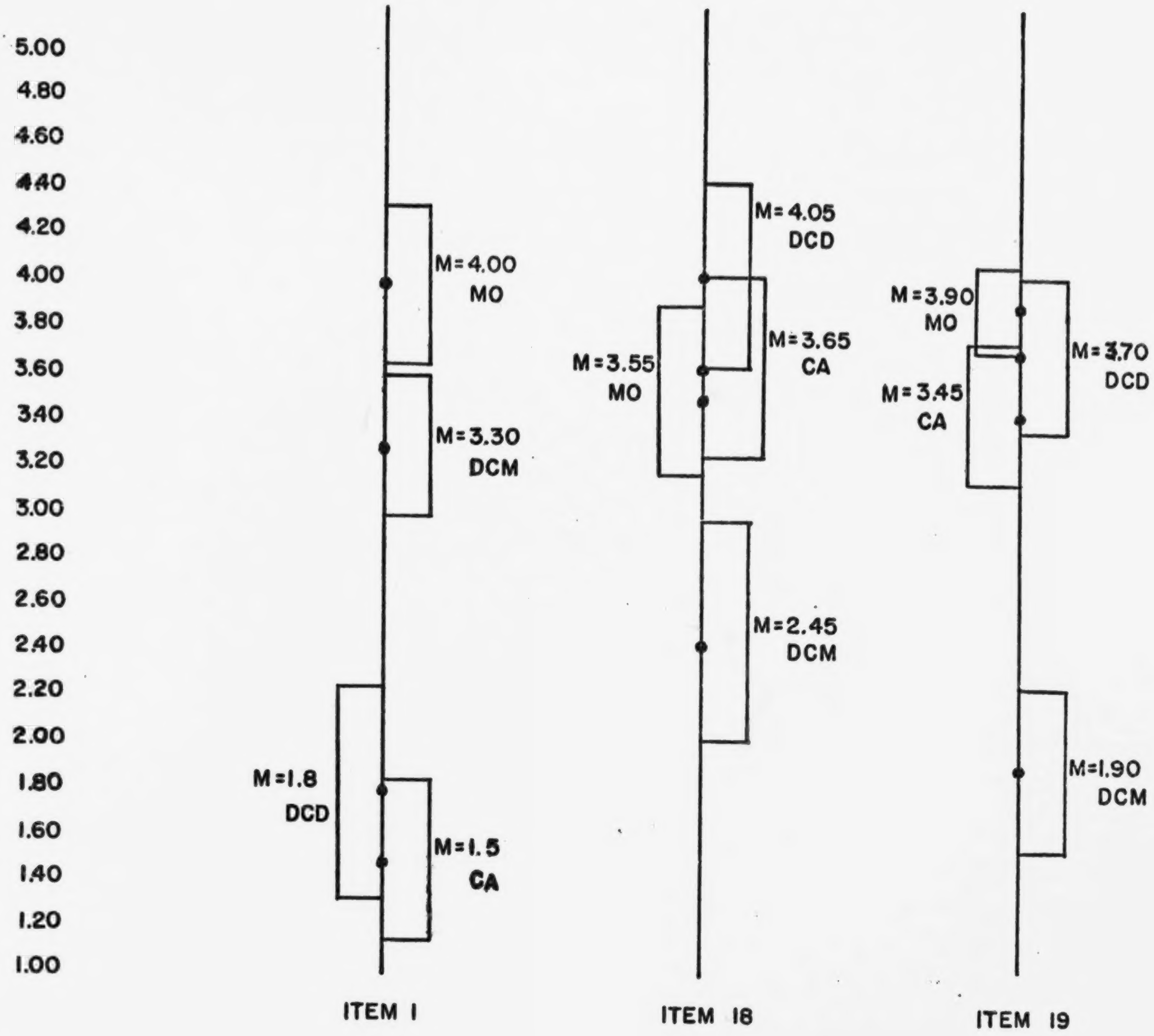

Figure 1.
Items on Which the Means for Mothers and Day Care Foster Mothers Were Significantly Different from Means for the Other Jobs Related to Child Care.

MO = Mother
DCM = Day Care Foster Mother
DCD = Day Care Center Director
CA = Child Care Assistant

other three groups. See Figure 1. On item one, "Understanding the nutritional needs of infants," the mean for day care foster mothers was higher than the means for both day care center directors and child care assistants; it was lower than the means as scored by mothers of preschool children. On items eighteen, "Understanding care of the cutaneous system," and nineteen, "Understanding the development and care of children's teeth," the means for day care foster mothers were lower than the means representing the other three groups.

The means of fourteen items of knowledge were significantly different for day care center directors from the means for the other three groups. On each of these fourteen items of knowledge, the means for directors were higher than the means representing the other three jobs and the confidence intervals for these items did not overlap into confidence intervals representing any of the other jobs. Three of the following fourteen items are presented in Figure 2.

Physical and Motor Development of Infants and Preschool Children

Item
number

16. Understanding health and safety measures (immunization, regular medical check-ups, supervised play) which apply to child care.
26. Understanding the order in which physical and motor development occurs in children.
28. Understanding how to guide children's motor development.
30. Understanding how to select children's play materials and equipment.

Emotional and Social Development of Infants and Preschool Children

38. Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumb-sucking, etc.).
42. Understanding the stages (steps of development) of emotional growth.
44. Understanding the importance of group experience in the social development of children.

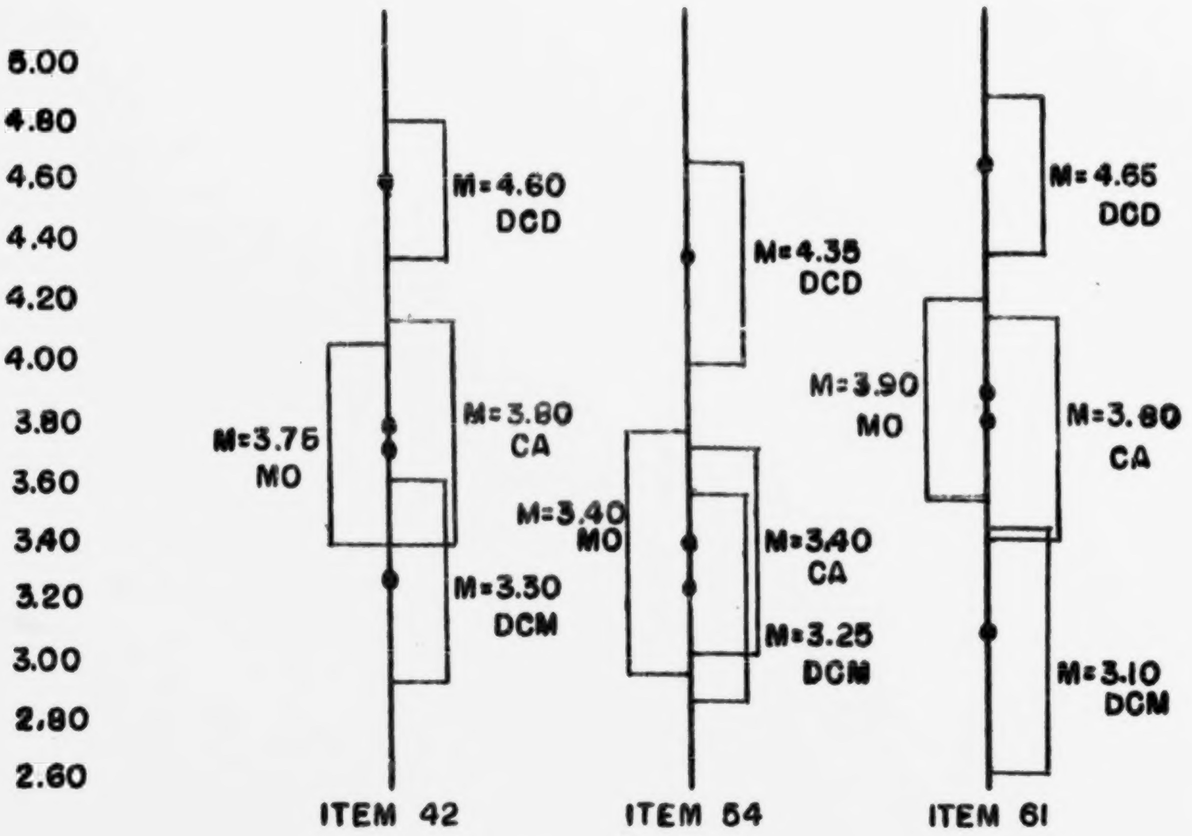

Figure 2.
Selected Items on Which the Means for Day Care Center Directors Were Significantly Different from Means for the Other Groups.

MO = Mother
DCM = Day Care Foster Mothers
DCD = Day Care Center Director
CA = Child Care Assistant

45. Understanding the importance of studying (observing, comparing) emotional and social development of children.

Intellectual Development of Infants and Preschool Children

53. Understanding language development patterns of young children.

54. Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time).

59. Understanding children's use of imitation and imagination.

61. Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children.

62. Understanding the importance of creative expression in children.

63. Understanding how to select stories, poems, television, movies, comics, records, and music for young children.

The means for day care center assistants were not significantly higher or lower than the other group means on any of the sixty-eight items of knowledge.

Results of the Statistical Analysis for Null Hypothesis #3

Null hypothesis #3 states that the depth of knowledge in child development and guidance needed by mothers, day care foster mothers, day care center directors, and child care assistants is equal.

As the preceding analysis of data indicated, null hypothesis #3 was rejected. The alternative hypothesis that mothers and workers in three occupations related to child care need different amounts of knowledge in child development and guidance is tenable.

Comparison of the Findings for Workers in Three Occupations Related to Child Care

The summary which follows was obtained from the findings for forty workers in occupations related to child care; namely, twenty day care foster mothers and twenty day care center directors.

Descriptive Data

The descriptive data obtained from forty workers employed as day care foster mothers and day care center directors are presented in Table 29.

TABLE 29

DESCRIPTIVE DATA OBTAINED FROM FORTY WORKERS IN TWO KINDS OF JOBS RELATED TO CHILD CARE

	Means		
Item	Day care Mothers N = 20	Day care Center Directors N = 20	All Workers N = 40
Years of formal schooling	11.00	15.37	13.19
Years of experience	3.68	9.19	6.44
Courses in child development	.55	3.55	2.05

The group of forty workers in occupations related to child care had completed an average of 13.19 years of formal schooling. They had worked an average of 6.44 years in the kind of jobs they held at the time of the interview and had completed an average of 2.05 courses in child development.

For each of the three items of descriptive data, the t-test was used to determine whether there was a significant difference between the means for the two groups of workers. On each of the three items of descriptive data the means for day care center directors were higher and the differences were significant at the .01 level.

Summary of the Items of Knowledge in Child Development and Guidance Needed for Workers in Three Occupations Related to Child Care

The following analysis includes opinions of twenty day care foster mothers and twenty day care center directors concerning the knowledges needed to perform their jobs. The twenty day care center directors were also asked their opinions concerning knowledges needed by the child care assistants under their direction. Therefore sixty questionnaires were included in this analysis.

The grand means for the sixty-eight items of knowledge as scored by interviewees concerning three jobs related to child care are included in Table 30. The grand mean for the sixty-eight items of knowledge as scored on sixty questionnaires was 3.69. The grand mean scores ranged from 3.45 for day care foster mothers to 4.14 for day care center directors.

TABLE 30

GRAND MEAN SCORES FOR ALL ITEMS OF KNOWLEDGE IN CHILD DEVELOPMENT AND GUIDANCE AS SCORED ON SIXTY QUESTIONNAIRES FOR WORKERS IN THREE OCCUPATIONS RELATED TO CHILD CARE

Type of Job		Means
Day care foster mother	N = 20	3.45
Day care center director	N = 20	4.14
Child care assistant[a]	N = 20	3.49
All questionnaires	N = 60	3.69

[a] Twenty day care center directors were interviewed concerning knowledges needed for their jobs as well as knowledges needed by child care assistants under their direction.

A one-way design analysis of variance test was used to determine whether or not there were significant differences among mean scores for the three occupations related to child care. There was a significant difference at the .01 level among the means for the three occupations related to child care.

Duncan's Multiple Range Test was used to determine which of the occupations had different mean scores at the .01 level. The day care center directors had a significantly different mean score located in the right tail of the distribution of ordered mean scores.

In order to determine whether workers in three jobs related to child care need different amounts of knowledge in each item of knowledge in child development and guidance, a one-way design analysis of variance test was calculated for each item. There was a significant difference at the .01 level among the three means on fifty-five of the sixty-eight items of knowledge.

The method of computing simultaneous confidence intervals developed by Tukey was utilized to ascertain which of the three groups had means which were significantly different on each of the sixty-eight items of knowledge.

There were nine items of knowledge on which the mean score for day care foster mothers was significantly different from the means representing the other two jobs related to child care. See Figure 3.

On the following six items the means for day care foster mothers were significantly higher than the means for workers, directors and assistants, in two jobs in day care centers:

1. Understanding the nutritional needs of infants.
3. Understanding ways of feeding infants.
5. Understanding methods of preparing food for infants.
7. Understanding methods of weaning from breast to bottle and/or from bottle to cup.
8. Understanding the methods and equipment used for bathing babies.
9. Understanding how to diaper and dress infants.

On the following three items of knowledge the means for day care foster mothers were significantly lower than the means for workers (directors and assistants) in two occupations in day care centers.

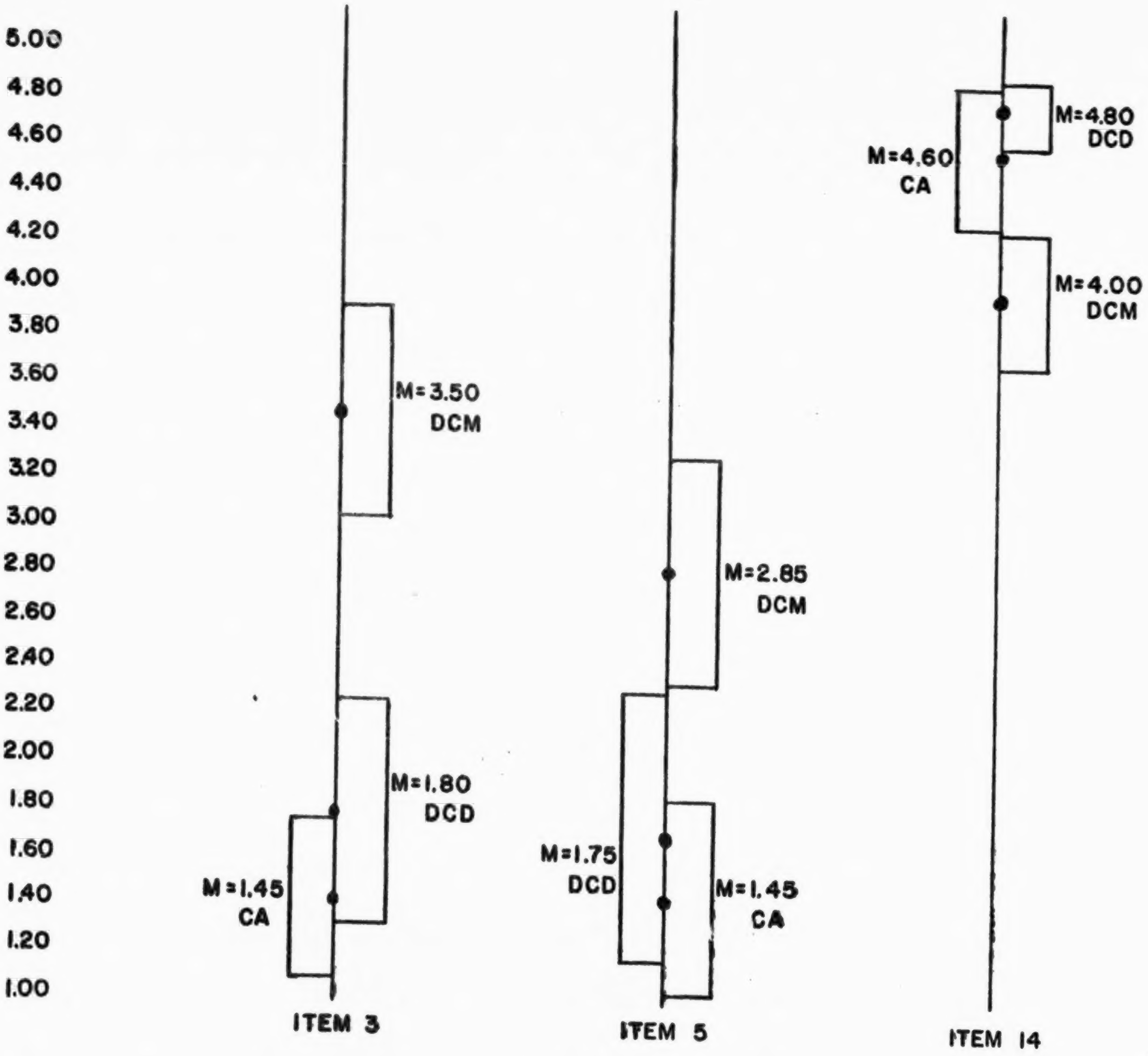

Figure 3.

Selected Items on Which the Means for Day Care Foster Mother Were Significantly Different from Means for Workers in Two Jobs in Day Care Centers.

DCM = Day Care Foster Mother
DCD = Day Care Director
CA = Child Care Assistant

14. Understanding the importance of personal cleanliness (for adult and child) as related to child care.
18. Understanding care of the cutaneous system (skin, hair, nails, etc.).
19. Understanding the development and care of children's teeth.

There were twenty-seven items on which the means for day care center directors were significantly different from the means for child care assistants in day care centers and day care foster mothers. On each of these twenty-seven items of knowledge the day care center directors scored significantly higher than the other two groups. Three of the following twenty-seven items are presented in Figure 4.

Physical and Motor Development of Infants and Preschool Children

Item
number

2. Understanding the nutritional needs of preschool children.
16. Understanding health and safety measures (immunization, regular medical check-ups, supervised play) which apply to child care.
26. Understanding the reflexes (swallowing, sneezing, coughing, sucking, etc.) which are present at birth.
27. Understanding the individual differences in physical and motor development in children.
28. Understanding how to guide children's motor development.
30. Understanding how to select children's play materials and equipment.

Emotional and Social Development of Infants and Preschool Children

34. Understanding the symptoms of serious behavior problems.
35. Understanding the factors determining personality development.
36. Understanding the development and duration of children's attitudes and interests.

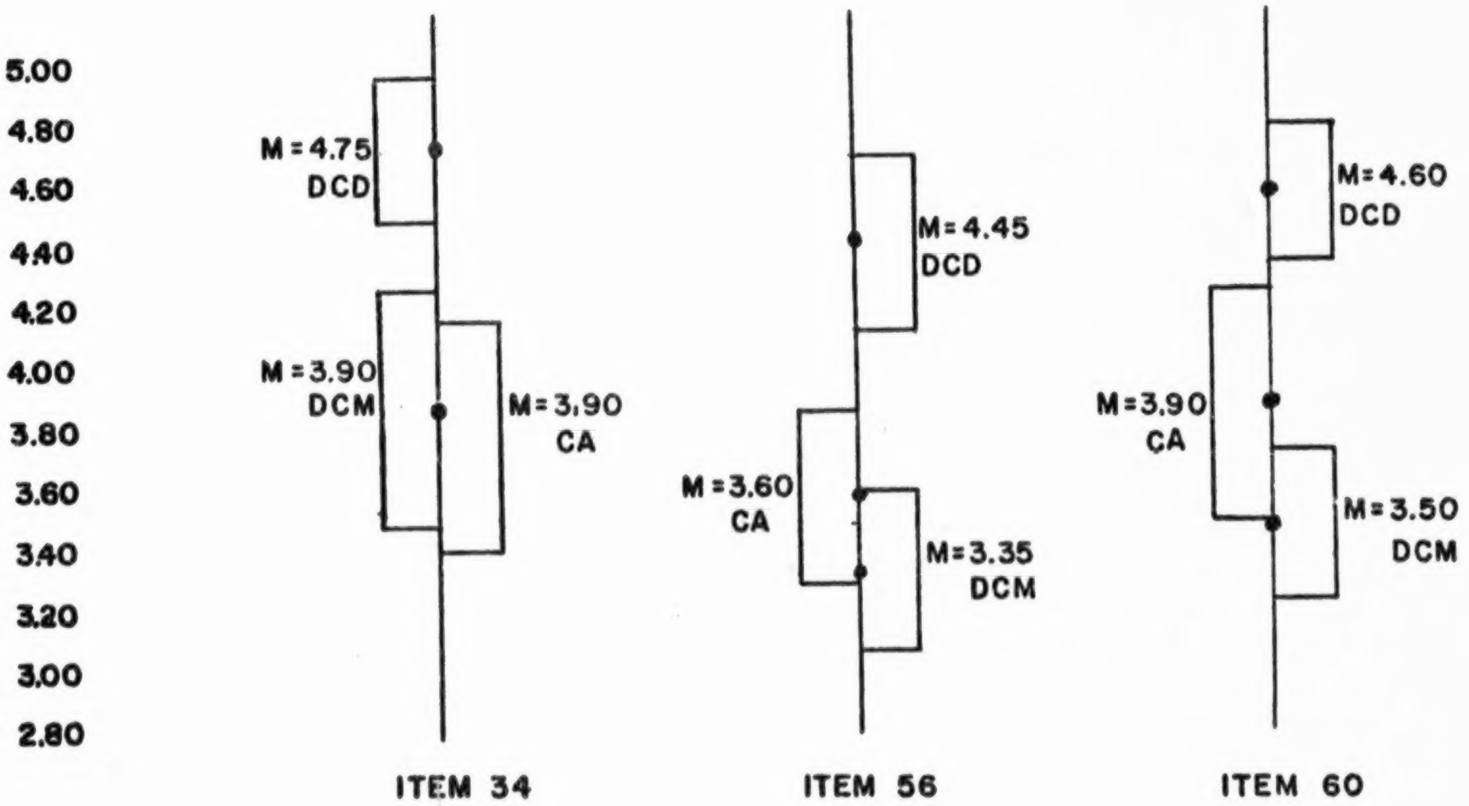

Figure 4.
Selected Items on Which the Means for Day Care Center Directors Were Significantly Different from Means for Day Care Foster Mother and Child Care Assistants.

DCM = Day Care Foster Mother
DCD = Day Care Director
CA = Child Care Assistant

37. Understanding the individual differences in emotional and social development.

38. Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumb-sucking, etc.).

42. Understanding the stages (steps of development) of emotional growth.

43. Understanding the importance of social development in children.

44. Understanding the importance of group experience in the social development in children.

45. Understanding the importance of studying (observing, comparing) emotional and social development of children.

47. Understanding the moral development of children (e.g., honesty).

50. Understanding the importance of discipline in the development of self-control in children.

Intellectual Development of Infants and Preschool Children

53. Understanding the language development patterns of young children.

54. Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time).

56. Understanding factors which influence language development in children.

57. Understanding the influence of formal and informal learning experiences on the intellectual development of children.

59. Understanding children's use of imitation and imagination.

60. Understanding how children learn (principles of learning).

61. Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children.

62. Understanding the importance of creative expression in children.

63. Understanding how to select stories, poems, television, movies, comics, records, and music for young children.

Other

67. Understanding the qualities parents expect of child care workers.

There were no items of knowledge on which the mean score for the child care assistants was significantly different from the means for the other two groups (day care center directors and day care foster mothers).

Results of the Statistical Analysis for Null Hypothesis #4

Null hypothesis #4 states that the depth of knowledge in child development and guidance needed by workers in three occupations related to child care is equal.

As the preceding analysis of data indicated, null hypothesis #4 was rejected. The alternative hypothesis that workers in three occupations related to child care need different amounts of knowledge in child development and guidance is tenable.

CHAPTER VIII

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Restatement of the Objectives of the Study

The main objective of the study was to ascertain both professionals' and practitioners' assessments of the kind and depth of knowledge in child development and guidance needed by mothers and employees in selected occupations related to child care. To accomplish this objective it was necessary to identify those knowledges in child development and guidance which are unique to the mother role and to the employee roles and those which are common to both.

Conclusions Drawn From the Statistical Testing of the Null Hypothesis

Null hypothesis #1 states that there are no differences between the professionals' and practitioners' opinions concerning the depth of understanding in 68 items of knowledge in child development and guidance needed by mothers and employees in occupations related to child care. Since no statistically significant difference was found between professionals' and practitioners' opinions, null hypothesis #1 could not be rejected. It was assumed that child development specialists, day care licensing representatives, and social workers employed by the Department of Children and Family Services would be the most knowledgeable groups from which to obtain opinions concerning the knowledges in child development and guidance needed by mothers and employees in certain occupations related to child care. Support of the practitioners' views by the professional groups suggests the conclusion that practitioners are also capable of making sound judgments regarding the knowledges needed to perform the jobs specified in the study.

Null hypothesis #2 states that the amount of knowledge in child development and guidance needed by workers in two jobs in day care centers is equal. Null hypothesis #3 states that the depth of knowledge in child development and guidance needed by mothers, day care foster mothers, day care center directors, and child care assistants is equal. Null hypothesis #4 states that the depth of knowledge in child development and guidance needed by workers in three occupations related to child care is equal. Null hypotheses numbers 2, 3 and 4 were rejected. The alternative hypotheses that mothers and employees in each of three occupations related to child care need different amounts of knowledge in child development and guidance are tenable.

Conclusions Drawn From the Summary of Descriptive Data Obtained From the Professional and Practitioner Groups Studied

For the items of descriptive data pertaining to the formal education and the number of courses completed in child development, the professional groups had means which were higher than the practitioner groups with which they were compared. The differences were statistically significant with the exception that the mean number of years of formal schooling for the licensing representatives was not significantly higher than that for the day care center directors included in the study. Comparison among the practitioner groups on these items revealed that the day care foster mothers included in this study had means which were significantly lower than those for the samples of mothers of preschool children and day care center directors.

The item pertaining to experience was not comparable among the groups as this item referred to experience in the kind of occupation in which each interviewee was engaged at the time of the interview. For example, the item "experience" for day care center directors referred to experience as directors, and for mothers as mothers of preschool children.

Summary of the Kind and Amount of Knowledge in Child Development and Guidance Needed by Mothers and Workers in Three Occupations Related to Child Care

The items of knowledge needed by mothers, day care foster mothers, day care center directors and day care center assistants are presented in Table 31. The mean scores for the items of knowledge were used as the basis for assigning a value of A, B, or C to each item of knowledge. The value of A indicated that the item of knowledge had a mean score that was within the range from 4.50 to 5.00. The value of B indicated that the item of knowledge had a mean score that was within the range from 3.50 to 4.45. The value of C indicated that the item of knowledge had a mean score that was within the range of 2.50 to 3.45.

For the investigator the value of A assigned to an item of knowledge indicated that a thorough understanding of that item of knowledge was needed. The value of B indicated that a considerable understanding of the item of knowledge was needed. The value of C indicated that a reasonable amount of understanding was needed for the particular item of knowledge.

An item of knowledge was considered by the investigator to be needed by a particular group if the mean as scored by that group was 2.50 or greater. A mean score of 2.50 or greater for an item of knowledge indicated that at least a reasonable understanding of that item was needed.

Implications for Curriculum Development

The recommendations for curriculum development that follow are based on the analysis of the findings of the study and the writer's understanding of curriculum development in the public schools. The implications for curriculum

TABLE 31

ITEMS OF KNOWLEDGE IN CHILD DEVELOPMENT AND GUIDANCE NEEDED BY MOTHERS AND EMPLOYEES IN THREE JOBS RELATED TO CHILD CARE

Item of Knowledge[a]	Job Category			
	Mothers	Day Care Foster Mothers	Day Care Center Directors	Child Care Assistant
PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN				
1. Understanding the nutritional needs of infants..........	B	C		
2. Understanding the nutritional needs of preschool children..	B	B	B	C
3. Understanding ways of feeding infants..................	C	B		
4. Understanding the eating behavior patterns (e.g., food habits)..	B	B	B	B
5. Understanding methods of preparing food for infants.....	C	C		
6. Understanding methods of preparing food for preschool children..	B	C	B	B
7. Understanding methods of weaning from breast to bottle and/or from bottle to cup..........................	C	C		
8. Understanding the methods and equipment used for bathing babies....................................	C	C		
9. Understanding how to diaper and dress infants..........	C	C		
10. Understanding the importance of encouraging self-help in dressing the preschool child.....................	B	B	B	B
11. Understanding how to select clothing for infants........	C			
12. Understanding how to select clothing for the preschool child..	C	C	B	C
13. Understanding how to care for clothing of infants and preschool children..............................	B		C	C
14. Understanding the importance of personal cleanliness (for adult and child) as related to child care.......	B	B	A	A
15. Understanding the importance of sanitation of facilities and equipment as related to child care....	B	B	A	A

TABLE 31--Continued

Item of Knowledge	Job Category Mothers	 Day Care Foster Mothers	 Day Care Center Directors	 Child Care Assistant
16. Understanding health and safety measures (immunization, regular medical check-ups, supervised play) which apply to child care	B	B	A	B
17. Understanding care of children's minor illnesses and common diseases of childhood	B	B	A	B
18. Understanding care of the cutaneous system (skin, hair, nails, etc.)	B		B	B
19. Understanding the development and care of children's teeth	B		B	C
20. Understanding the sleep needs of infants and preschool children	B	B	B	B
21. Understanding the physical environment and emotional atmosphere needed for sleep	B	B	B	B
22. Understanding children's need for exercise and activity	B	B	A	B
23. Understanding the toilet training methods	B	B	B	B
24. Understanding methods of handling children's sex behavior and sex interests	B	B	A	B
25. Understanding the reflexes (swallowing, sneezing, coughing, sucking, etc.) which are present at birth	B	C		
26. Understanding the order in which physical and motor development occurs in children	B	C	A	B
27. Understanding the individual differences in physical and motor development in children	B	B	A	B
28. Understanding how to guide children's motor development	B	C	A	B
29. Understanding the functions of glands of external and internal secretion	C		C	C
30. Understanding how to select children's play materials and equipment	B	B	A	C
31. Understanding ways of caring for children's play materials and equipment	C	C	A	B
32. Understanding the techniques of caring for the needs of several preschool children at one time	B	B	A	B

TABLE 31--Continued

Item of Knowledge	Job Category			
	Mothers	Day Care Foster Mothers	Day Care Center Directors	Child Care Assistant
EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN				
33. Understanding the basic emotional and personality needs of individuals....................................	B	B	A	B
34. Understanding the symptoms of serious behavior problems.	B	B	A	B
35. Understanding the factors determining personality development....................................	B	B	A	B
36. Understanding the development and duration of children's attitudes and interests..........................	B	B	A	B
37. Understanding the individual differences in emotional and social development..........................	B	B	A	B
38. Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumb-sucking, etc.)....................................	B	B	A	B
39. Understanding ways of handling sibling rivalry (jealousy among brothers and sisters)...............	B	B	B	C
40. Understanding ways of helping children overcome common fears..	B	B	A	B
41. Understanding emotional aspects involved in establishing eating habits..................................	B	C	B	B
42. Understanding the stages (steps of development) of emotional growth..................................	B	C	A	B
43. Understanding the importance of social development in children..	B	C	A	B
44. Understanding the importance of group experience in the social development of children.....................	B	B	A	B
45. Understanding the importance of studying (observing, comparing) emotional and social development of children..	B	C	A	B
46. Understanding ways to guide group play among children...	B	B	A	B

TABLE 31--Continued

Item of Knowledge	Job Category Mothers	Day Care Foster Mothers	Day Care Center Directors	Child Care Assistant
47. Understanding the moral development of children (e.g., honesty)........	B	B	A	B
48. Understanding the importance of adult models in determining behavior, values and attitudes of children.......	B	C	A	B
49. Understanding how children acquire religious ideals.....	B	C	B	C
50. Understanding the importance of discipline in the development of self-control in children..............	B	B	A	B
51. Understanding the emotional and social adjustment problems of physically or mentally handicapped children........	B	B	B	C
52. Understanding the importance of recognizing differences in cultural values........	B	B	B	B
INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN				
53. Understanding language development patterns of young children........	B	C	B	B
54. Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time)............	C	C	B	C
55. Understanding the relationship of the development of the senses to learning ability in children..........	B	C	A	B
56. Understanding factors which influence language development in children........	B	C	B	B
57. Understanding the influence of formal and informal learning experiences on the intellectual development of children........	B	B	A	B
58. Understanding the development of reasoning and problem solving ability in children........	B	B	A	B
59. Understanding children's use of imitation and imagination........	B	B	A	B

TABLE 31--Continued

Item of Knowledge	Job Category Mothers	 Day Care Foster Mothers	 Day Care Center Directors	 Child Care Assistant
60. Understanding how children learn (principles of learning)	B	B	A	B
61. Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children	B	C	A	B
62. Understanding the importance of creative expression in children	B	C	A	B
63. Understanding how to select stories, poems, television, movies, comics, records, and music for young children	B	B	A	B
64. Understanding the importance of sex education for young children	B	C	B	B
OTHER				
65. Understanding the legal regulations regarding child-care occupations	B	B	B	C
66. Understanding the principles of employer-employee relationships in child-care centers or homes	B	B	A	B
67. Understanding qualities parents expect of child-care workers	B	B	A	B
68. Understanding what child-care workers expect of parents.	B	B	B	C

[a] The items of knowledge represented 68 dependent variables. (See Appendix H.)

NOTE: The following criteria was used to establish levels of understanding needed for the items according to 20 mothers, 20 day care foster mothers and 20 day care center directors: (The directors also indicated knowledges needed by the child care assistants.) A, items with a mean score between 4.50 and 5.00; B, items with a mean score between 3.50 and 4.45; and C, items with a mean score between 2.50 and 3.45.

development described herein are in terms of the Simpson[1] model for curriculum development in home economics at the secondary level. Simpson envisions the home economics education curriculum at the secondary level organized around the following three major purposes of home economics education: preparation for homemaking and family life, preparation for employment in occupations utilizing home economics knowledges and skills, and motivation and recruitment of college-bound students for professional careers in the field of home economics. The three major purposes of home economics education at the secondary level and the nature of their relationship according to Simpson[2] are presented in Figure 5. Simpson further projects possible content for each area based on the three purposes of home economics education and for an area of commonality with a "roles of women" core.

The findings from the summary of knowledges in child development considered necessary by mothers and by workers in each of the three occupations related to child care may be utilized in ascertaining which understandings in child development and guidance are common to all three purposes of home economics education and those which are unique to only one of these purposes. The common knowledges might be included in a core course and the knowledges which are unique to only one purpose might be included in advanced or separate courses.

It is recommended that an understanding of the items of knowledge needed in common by mothers and employees in all three occupations related to child care studied be included in core courses at the high school level. An understanding of the items of knowledge needed by the mothers and none of the three groups of employees should be included in a course which emphasizes the

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[1] Elizabeth Jane Simpson, "Projections in Home Economics Education," American Vocational Journal, Vol. 40, November, 1965, pp. 41-43.

[2] Ibid.

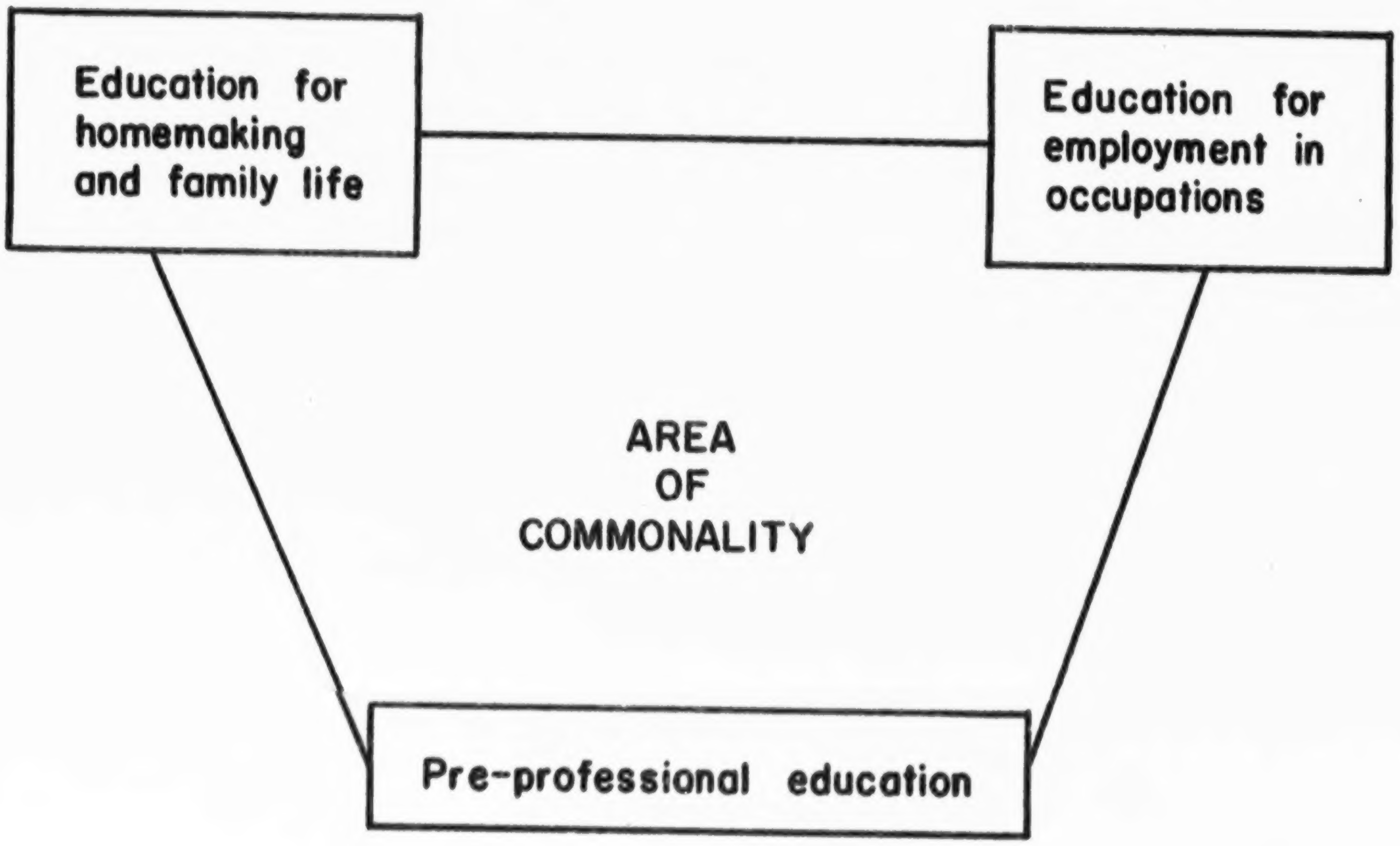
Education for homemaking and family life
Education for employment in occupations
AREA OF COMMONALITY
Pre-professional education

Figure 5.
The Three Major Purposes of Home Economics Education at the Secondary Level and the Nature of Their Relationships.

homemaking aspect of home economics education. Any items needed by employees in occupations related to child care might be included in courses which emphasize preparation for occupations utilizing home economics knowledges and skills.

The results shown in Table 31 indicate that at least a reasonable amount of knowledge is needed by the mothers and employees in the three occupations selected for study on 56 of the 68 items of knowledge. In core courses or units in child development a reasonable understanding in these areas might be gained. Students in these courses or units may be preparing for homemaking; for employment as assistants or aids in child care centers or homes; for continuing their education in this area at a professional level in order to qualify as a nursery school teacher, kindergarten teacher, day care center supervisor or worker; or any combination of these. It is also recommended that items on which all or three of the four groups studied needed considerable understanding be emphasized or studied for depth in a second core course or unit in child development and guidance.

Only one item of knowledge in child development and guidance was found to be unique to a particular job. Item number eleven, "Understanding how to select clothing for infants," was unique in that it received a mean score above 2.5 for only the job of mother to a preschool child. It is recommended that selection of children's clothing be included in the unit on clothing the family in a course designed to prepare students for homemaking and family life.

There were seven items of knowledge considered necessary in common by the mothers of preschool children and the day care foster mothers but not by the workers (child care assistants and directors) in day care centers included in the study. These seven items are 1, 3, 5, 7, 8, 9, and 25. All of these seven items are related to care of infants. It is recommended that care of infants be included in a course primarily to prepare students for homemaking and family life. These students may or may not also plan to care for children in their own homes as day care foster mothers.

Items 13, 18, 19, and 29 were needed in common by the mothers of preschool children, day care center directors, and child care assistants. Since these items were needed in three of the four categories studied, it is recommended that these items also be included in one of the core courses. The day care center directors included in the study needed a thorough understanding of 37 of the 68 items of knowledge as compared to two items on which a thorough understanding was needed for child care assistants and none for the mothers and day care foster mothers studied. Therefore post high school education is recommended for those who are preparing to become day care center directors. It is also recommended that others who plan to care for children as assistants or foster mothers and who have not completed the basic courses or units at the secondary level, receive this training in specialized courses at the post high school or continuing level.

The investigator assumed that the aforementioned recommendations for curriculum development would be utilized as one of the bases for developing the home economics curriculum at the secondary level in the area of child development and guidance. Length of time spent on any aspect or combination of aspects of child development, sequence of presentation, and age, and grade levels at which the various understandings would be presented are to be based on other evidence. It should also be restated that this study was delimited to include only items of knowledge (understandings) in child development and guidance. The investigator assumed that units in child development would also be based on objectives which were in the affective and psychomotor domains and that learning experiences which were appropriate to attaining these objectives, as well as to attaining those in the cognitive domain, would be selected.

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APPENDICES

APPENDIX A

INSTRUCTIONS

For each item in the list that follows, decide which of the following (1,2,3,4,5) best describes the depth of understanding *necessary for the performance of your job as day care center director*. Use the following key:

1. The performance of my job requires *no understanding* of this item.
2. The performance of my job requires *only limited understanding* of this item.
3. The performance of my job requires a *reasonable understanding* of this item.
4. The performance of my job requires a *considerable understanding* of this item.
5. The performance of my job requires a *thorough understanding* of this item.

Think of these checklist items as representing a continuum with the positions (1,2,3,4,5) equally spaced. The number you select represents your judgment of the depth of understanding necessary to perform your job.

Example

If you believe that the performance of your job requires only limited understanding of the item listed below, you would select the "2" beside the item.

Understanding the importance of "bubbling" babies..................1 [✓ 2] 3 4 5

Note:

If you care for children on a half day basis, think of the items in terms of the depth of knowledge needed if the children were *in your care for the full day*.

APPENDIX B

INSTRUCTIONS

For each item in the list that follows, decide which of the following (1,2,3,4,5) best describes the depth of understanding necessary for the performance of your job as a day care home worker. Use the following key:

1. The performance of my job requires no understanding of this item.
2. The performance of my job requires only limited understanding of this item.
3. The performance of my job requires only a reasonable understanding of this item.
4. The performance of my job requires a considerable understanding of this item.
5. The performance of my job requires a thorough understanding of this item.

Think of these checklist items as representing a continuum with the positions (1,2,3,4,5) equally spaced. The number you select represents your judgment of the depth of understanding necessary to perform your job.

Example

If you believe that the performance of your job requires only limited understanding of the item listed below, you would select the "2" beside the item.

Understanding the importance of "bubbling" babies.................. 1 [✓ 2] 3 4 5

APPENDIX C

INSTRUCTIONS

For each item in the list that follows, decide which of the following (1,2,3,4,5) best describes the depth of understanding necessary for mothers of preschool children. Use the following key:

1. The performance of my job as the mother of a preschool child requires no understanding of this item.
2. The performance of my job as the mother of a preschool child requires only limited understanding of this item.
3. The performance of my job as the mother of a preschool child requires a reasonable understanding of this item.
4. The performance of my job as the mother of a preschool child requires a considerable understanding of this item.
5. The performance of my job as the mother of a preschool child requires a thorough understanding of this item.

Think of these checklist items as representing a continuum with the positions (1,2,3,4,5) equally spaced. The number you select represents your judgment of the depth of understanding necessary to perform your job as the mother of a preschool child.

Example

If you believe that the performance of your job requires only limited understanding of the item listed below, you would select the "2" beside the item.

Understanding the importance of "bubbling" babies....................1 [✓ 2] 3 4 5

APPENDIX D

INSTRUCTIONS

For each item in the list that follows, decide which of the following (1,2,3,4,5) best describes the depth of understanding necessary for the performance of the job of day care center assistant. Use the following key:

1. The performance of the job as day care center assistant requires no understanding of this item.
2. The performance of the job as day care center assistant requires only limited understanding of this item.
3. The performance of the job as day care center assistant requires a reasonable understanding of this item.
4. The performance of the job as day care center assistant requires a considerable understanding of this item.
5. The performance of the job as day care center assistant requires a thorough understanding of this item.

Think of these checklist items as representing a continuum with the positions (1,2,3,4,5) equally spaced. The number you select represents your judgment of the depth of understanding necessary to perform this job.

Example

If you believe that the performance of the job requires only limited understanding of the item listed below, you would encircle the "2" beside the item.

Understanding the importance of "bubbling" babies..................1 [✓ 2] 3 4 5

Note:

If your assistant cares for children on a half day basis, think of the items in terms of the depth of knowledge needed if the children were in the center for the full day.

APPENDIX E

INSTRUCTIONS

For each item in the list that follows, decide which of the following (1,2,3,4,5) best describes the depth of understanding *necessary for the performance of the job of day care center director*. Use the following key:

1. The performance of the job requires *no understanding* of this item.
2. The performance of the job requires *only limited understanding* of this item.
3. The performance of the job requires a *reasonable understanding* of this item.
4. The performance of the job requires a *considerable understanding* of this item.
5. The performance of the job requires a *thorough understanding* of this item.

Think of these checklist items as representing a continuum with the positions (1,2,3,4,5) equally spaced. The number you circle represents your judgment of the depth of understanding necessary to perform this job.

Example

If you believe that the performance of the job requires only limited understanding of the item listed below, you would encircle the "2" beside this item.

Understanding the importance of "bubbling" babies..................1 [✓ 2] 3 4 5

APPENDIX F

INSTRUCTIONS

For each item in the list that follows, decide which of the following (1,2,3,4,5) best describes the depth of understanding necessary for the performance of the job of day care home mother. Use the following key:

1. The performance of the job requires no understanding of this item.
2. The performance of the job requires only limited understanding of this item.
3. The performance of the job requires a reasonable understanding of this item.
4. The performance of the job requires a considerable understanding of this item.
5. The performance of the job requires a thorough understanding of this item.

Think of these checklist items as representing a continuum with the positions (1,2,3,4,5) equally spaced. The number you circle represents your judgment of the depth of understanding necessary to perform this job.

Example

If you believe that the performance of the job requires only limited understanding of the item listed below, you would encircle the "2" beside the item.

Understanding the importance of "bubbling" babies..................1 [✓ 2] 3 4 5

APPENDIX G

INSTRUCTIONS

For each item in the list that follows, decide which of the following (1,2,3,4,5) best describes the depth of understanding *necessary for the performance of the job as mother of a preschool child*. Use the following key:

1. The performance of the job of mother of a preschool child requires *no understanding* of this item.
2. The performance of the job of mother of a preschool child requires *only limited understanding* of this item.
3. The performance of the job of mother of a preschool child requires a *reasonable understanding* of this item.
4. The performance of the job of mother of a preschool child requires a *considerable understanding* of this item.
5. The performance of the job of mother of a preschool child requires a *thorough understanding* of this item.

Think of these checklist items as representing a continuum with the positions (1,2,3,4,5) equally spaced. The number you circle represents your judgment of the depth of understanding necessary to the performance of the job of mother to a preschool child.

Example

If you believe that the performance of the job requires only limited understanding of the item listed below, you would encircle the "2" beside the item.

Understanding the importance of "bubbling" babies.................1 [✓ 2] 3 4 5

APPENDIX H

CHECKLIST OF CONCEPTS, PRINCIPLES, AND TOPICS IN CHILD DEVELOPMENT AND GUIDANCE

Variable number[1]	Items of knowledge[2]	Scoring scale[3]
	PHYSICAL AND MOTOR DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN	
1.	Understanding the nutritional needs of infants	1 2 3 4 5
2.	Understanding the nutritional needs of preschool children	1 2 3 4 5
3.	Understanding ways of feeding infants	1 2 3 4 5
4.	Understanding the eating behavior patterns (e.g., food habits)	1 2 3 4 5
5.	Understanding methods of preparing food for infants	1 2 3 4 5
6.	Understanding methods of preparing food for preschool children	1 2 3 4 5
7.	Understanding methods of weaning from breast to bottle and/or from bottle to cup	1 2 3 4 5
8.	Understanding the methods and equipment used for bathing babies	1 2 3 4 5
9.	Understanding how to diaper and dress infants	1 2 3 4 5
10.	Understanding the importance of encouraging self-help in dressing the preschool child	1 2 3 4 5
11.	Understanding how to select clothing for infants	1 2 3 4 5
12.	Understanding how to select clothing for the preschool child	1 2 3 4 5
13.	Understanding how to care for clothing of infants and preschool children	1 2 3 4 5
14.	Understanding the importance of personal cleanliness (for adult and child) as related to child care	1 2 3 4 5

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[1] Numerical list of items of knowledge. The items of knowledge are the dependent variables of the study. (See pages 17-18.)

[2] An item of knowledge is a concept, principle, or topic in child development.

[3] See page 17 for a detailed description of the scoring scale.

15. Understanding the importance of sanitation of facilities and equipment as related to child care..........................1 2 3 4 5

16. Understanding health and safety measures (immunization, regular medical check-ups, supervised play) which apply to child care....1 2 3 4 5

17. Understanding care of children's minor illnesses and common diseases of childhood..1 2 3 4 5

18. Understanding care of the cutaneous system (skin, hair, nails, etc.)...1 2 3 4 5

19. Understanding the development and care of children's teeth.......1 2 3 4 5

20. Understanding the sleep needs of infants and preschool children..1 2 3 4 5

21. Understanding the physical environment and emotional atmosphere needed for sleep..1 2 3 4 5

22. Understanding children's need for exercise and activity..........1 2 3 4 5

23. Understanding the toilet training methods........................1 2 3 4 5

24. Understanding methods of handling children's sex behavior and sex interests...1 2 3 4 5

25. Understanding the reflexes (swallowing, sneezing, coughing, sucking, etc.) which are present at birth.......................1 2 3 4 5

26. Understanding the order in which physical and motor development occurs in children..................................1 2 3 4 5

27. Understanding the individual differences in physical and motor development in children..1 2 3 4 5

28. Understanding how to guide children's motor development..........1 2 3 4 5

29. Understanding the functions of glands of external and internal secretion...1 2 3 4 5

30. Understanding how to select children's play materials and equipment...1 2 3 4 5

31. Understanding ways of caring for children's play materials and equipment...1 2 3 4 5

32. Understanding the techniques of caring for the needs of several preschool children at one time..........................1 2 3 4 5

EMOTIONAL AND SOCIAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN

33. Understanding the basic emotional and personality needs of individuals..1 2 3 4 5

34. Understanding the symptons of serious behavior problems..........1 2 3 4 5

35. Understanding the factors determining personality development....1 2 3 4 5

36. Understanding the development and duration of children's attitudes and interests..1 2 3 4 5

37. Understanding the individual differences in emotional and social development..1 2 3 4 5

38. Understanding the role of guidance in handling children's frustrations and tension outlets (tantrums, thumb-sucking, etc.).1 2 3 4 5

39. Understanding ways of handling sibling rivalry (jealousy among brothers and sisters)...1 2 3 4 5

40. Understanding ways of helping children overcome common fears.....1 2 3 4 5

41. Understanding emotional aspects involved in establishing eating habits...1 2 3 4 5

42. Understanding the stages (steps of development) of emotional growth...1 2 3 4 5

43. Understanding the importance of social development in children...1 2 3 4 5

44. Understanding the importance of group experience in the social development of children.....................................1 2 3 4 5

45. Understanding the importance of studying (observing, comparing) emotional and social development of children....................1 2 3 4 5

46. Understanding ways to guide group play among children............1 2 3 4 5

47. Understanding the moral development of children (e.g., honesty)..1 2 3 4 5

48. Understanding the importance of adult models in determining behavior, values and attitudes of children.......................1 2 3 4 5

49. Understanding how children acquire religious ideals..............1 2 3 4 5

50. Understanding the importance of discipline in the development of self-control in children......................................1 2 3 4 5

51. Understanding the emotional and social adjustment problems of physically or mentally handicapped children.......................1 2 3 4 5

52. Understanding the importance of recognizing differences in cultural values...1 2 3 4 5

INTELLECTUAL DEVELOPMENT OF INFANTS AND PRESCHOOL CHILDREN

53. Understanding language development patterns of young children....1 2 3 4 5

54. Understanding the process and development of sensory perception and judgment in children (abilities to judge distance, weight, number and time)......................................1 2 3 4 5

55. Understanding the relationship of the development of the senses to learning ability in children...................................1 2 3 4 5

56. Understanding factors which influence language development in children...1 2 3 4 5

57. Understanding the influence of formal and informal learning experiences on the intellectual development of children..........1 2 3 4 5

58. Understanding the development of reasoning and problem solving ability in children..1 2 3 4 5

59. Understanding children's use of imitation and imagination........1 2 3 4 5

60. Understanding how children learn (principles of learning)........1 2 3 4 5

61. Understanding the importance of experiences such as trips and caring for animals and plants in the lives of young children.....1 2 3 4 5

62. Understanding the importance of creative expression in children..1 2 3 4 5

63. Understanding how to select stories, poems, television, movies, comics, records, and music for young children...................1 2 3 4 5

64. Understanding the importance of sex education for young children.1 2 3 4 5

OTHER

65. Understanding the legal regulations regarding child-care occupations..1 2 3 4 5

66. Understanding the principles of employer-employee relationships in child-care centers or homes....................................1 2 3 4 5

67. Understanding qualities parents expect of child-care workers.....1 2 3 4 5

68. Understanding what child-care workers expect of parents..........1 2 3 4 5

69. Other____

____1 2 3 4 5

APPENDIX I

DESCRIPTIVE DATA QUESTIONNAIRE

Job title____________________

_____1. Years of formal schooling

_____2. Years of experience in the type of job you now hold

_____3. Courses in the area of child care and guidance

Explain____

____

APPENDIX J

LIST OF REFERENCES AND TEXTS IN CHILD DEVELOPMENT AND GUIDANCE

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APPENDIX K

STATISTICAL TESTS USED IN THE ANALYSIS OF DATA IN THE STUDY

t-test

The t-test was used to ascertain whether means for two groups were significantly different. The means are declared significantly different if the observed difference cannot reasonably be explained by sampling error.

Analysis of Variance Test

The analysis of variance technique was used to test whether the differences among more than two means were significant. Analysis of variance, developed by Fisher, divides the sum of squares into additive parts. The test statistic is the F statistic which is a ratio between the two estimates of the population variance.

Duncan's Multiple Range Test

Duncan's Multiple Range Test was used in investigating the differences among more than two means following the analysis of variance test. It was used to ascertain in what ways the means differed. The error mean square of the analysis of variance was used in estimating the standard error of the mean, that is $S_{\bar{x}} = \frac{S}{\sqrt{n}}$, where S is the square root of the error mean square and n is the number of observations on which each mean is based. Duncan's Multiple Range Test is described in detail in Edwards.[1]

Simultaneous Confidence Intervals

The method of observing confidence intervals for several means simultaneously is suggested by Tukey. The 95 per confidence interval was used in this study as the individual confidence coefficient; the simultaneous confidence coefficient for comparing four means was therefore .80. If a confidence interval did not overlap into the confidence intervals for any of the other means with which it was compared, it was declared significantly different from any of these means. Computing confidence intervals for means is essentially asserting with some known degree of confidence an interval within which the population mean lies.

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[1] Allen L. Edwards, Experimental Design in Psychological Research, Revised Edition, Holt, Rinehart and Winston, New York, 1960, pp. 136-140.

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